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TABLE OF CONTENTS.

| | PAGE. |
|---|-----------|
| Editorial: | |
| The Price of Crude Rubber..... | 69 |
| Boston and Pará..... | 70 |
| Regulation of Selling Prices..... | 70 |
| Minor Editorial..... | 70 |
| Making Black Substitute..... | 71 |
| New Trade Publications..... | 72 |
| Exploring for "Castilloa" in Panama—I..... <i>The Editor</i> | 73 |
| [To Panama in the Rainy Season. Fortune Island. Colon. Along the Panama Canal. Panama City. The <i>Almirante</i> . Toboga Island. Queer Fish. Sleeping in the Rain. The Quebro Outlaws. <i>El Capitan's</i> Fears. Almost Wrecked. In the Lee of Gobernador. The "Pioneer" Comes Aboard. Ashore at Last.] | |
| [With 10 Illustrations.] | |
| New Features in Tire Construction..... | 78 |
| [The Republic Rubber Co.'s New Tire. The G & J Thread Fabric Tire. Swinehart's New Solid Tire.] | |
| [With 7 Illustrations.] | |
| The Automobile Tire of the Future..... | 80 |
| Literature of India-Rubber..... | 80 |
| The India-Rubber Trade in Great Britain. Our Regular Correspondent | 81 |
| [The Waterproof Trade. Tire Interests. The Gutta-Percha Manufacture. The Shoe and Leather Fair. Golf Balls. Rubber in Metal Mining. New Capital Issue.] | |
| Some Rubber Interests in Europe..... | 83 |
| [Report of the Harburg-Vienna Company. Rubber Goods at the Nijni-Novgorod Fair. The Grammont Factories, in France. Automobile Shows in Germany and France. Manufacture of Rubber Footwear in Belgium. Notes.] | |
| New Goods and Specialties in Rubber..... | 85 |
| [“Woven Wire Rubber.” New Idea in Rubber Belting. Molded Fountain Syringe. Automobile Fabric Supplies. Novel Nursing Appliance. The Goodrich Wire Wrap. “Diamond” Soft Cover Battery Jar. St. John Non Puncturable Automobile Tire. Novelty in Rubber Mats.] | |
| [With 11 Illustrations.] | |
| Recent Rubber Patents..... | 87 |
| [American. British. German. French.] | |
| Rubber Planting and Exploitation..... | 89 |
| [Extent of Rubber Planting in Ceylon. Notes on Planting Companies in Mexico, Nicaragua, and Selangor.] | |
| Petersen's Reclaiming Process (Illustrated)..... | 91 |
| The "Sweating" of Congo Rubbers..... | 92 |
| Recent Rubber Statistics..... | 93 |
| [Rubber Production of West African Colonies. A Handy Book of Rubber Figures.] | |
| Canada's Oldest Rubber Factory..... | 94 |
| [Sketch of the Canadian Rubber Co. of Montreal. Portrait of General Manager McGibbon.] | |
| Miscellaneous: | |
| Mr. Cudahy's Company Out of Doors..... | 92 |
| Some Wants of the Rubber Trade..... | 92 |
| Prices of Rubber Footwear..... | 92 |
| A Yachting Cruise up the Amazon..... | 90 |
| Manufacture of Rubber Nipples (Illustrated)..... | 91 |
| Limiting Jobbers' Selling Prices..... | 91 |
| A Model Molded Goods Department (Illustrated)..... | 92 |
| The Neglect of Bicycle Tires..... | 92 |
| India-Rubber Goods in Commerce..... | 94 |
| Rubber Transport in French Sudan..... | 95 |
| A Card from Messrs. Pirelli & Co..... | 100 |
| An Old Comb Factory Closed..... | 100 |
| A Quart of Rubber Syrup..... | 100 |
| A New England Rubber Club "Smoke Talk"..... | 95 |
| News of the American Rubber Trade..... | 96 |
| Review of the Crude Rubber Trade..... | 100 |

THE PRICE OF CRUDE RUBBER.

THERE is no occasion for surprise in the present condition of the crude rubber market. It would be surprising if prices were lower. Nor are the present high prices to be regarded as merely ephemeral; so long as the present active condition of the industry continues, materially lower prices are out of the question. For years THE INDIA RUBBER WORLD has maintained persistently that the prices quoted by manufacturers for their products often were relatively too low, and that a policy ought to be adopted that would render them constantly prepared for an increasing cost of raw materials.

In one sense, the natural supply is as definitely limited as the fortune of an individual; so long as the demands upon that fortune are confined to the income which it produces, its owner may be comfortable, but so soon as larger demands are made upon it, disaster is invited. The natural supply of rubber is never increased, whereas the demand for rubber has increased constantly since Charles Good-year's discovery first rendered the material of practical use to mankind. The result is that the available natural supply of rubber is smaller to-day than ever before, and it must always grow less.

Twenty-five years ago Mr. John H. Cheever, one of the most successful rubber manufacturers the world has known, bought raw rubber as low as the prices appended, in comparison with which we note the highest New York quotations for corresponding grades within the current year:

| | 1879. | 1904. |
|------------------|-------|-------|
| Fine Pará..... | .50 | 1.33 |
| Coarse Pará..... | .34 | .97 |
| Assam..... | .34 | .91 |
| African..... | .24 | 1.04 |
| Borneo..... | .47½ | .41 |
| Mozambique..... | .35 | .97 |

It is not meant by what has been said above that less rubber is produced than formerly; the point to be made that the consumption has increased at a more rapid rate than production, and this has forced up prices. The output of raw rubber from the Amazon valley increased from 17½ million pounds in 1879 to 67 millions in the last crop year, and meanwhile the increase in the African output probably has been as great. But now the limit seems to have been reached in rubber production in many regions, and it is no longer so easy as it once was to find new sources of supplies to take the place of exhausted ones. The extraordinary prices of rubber which have prevailed for some time past have not had the effect of stimulating a larger production on either the Amazon or the Congo, which is the best possible reason for believing that the world's productive capacity in the way of native rubber has been reached.

The demand for rubber, however, never ceases nor becomes diminished; it promises to continue to grow in years to come as it has done in all the years since the first rubber goods were vulcanized. The problem of how best to meet the conditions above outlined, and which must become more acute with the progress of time, is one which calls for managerial ability of the highest order in connection with our rubber factories.

BOSTON AND PARA.

THE secretary of the New England Rubber Club, at the last meeting of that body, at the request of some of its members, laid before it for consideration a matter that is of interest to the trade generally, and for more reasons than one. The matter, in brief, relates to a reported move at Pará, Brazil, to grant a concession for a monopoly of handling all the rubber taxable for export from that port, which would involve of course a certain charge on every kilo of rubber for the benefit of the *cessionnaire*, in addition to the heavy taxes already imposed by the state and the municipality.

The fact is that the rubber producing states on the Amazon live by rubber to a greater extent than any other states in the world live upon a single commodity. A condition which is peculiar to the rubber states, however, is that whereas the trade is organized and carried on by foreign enterprise and with foreign capital, the local governments plan and contrive to place upon the exports all the burdens, in the way of imposts and taxes, "that they will bear," with the idea that, Pará rubber being a necessity to the outside world, the foreigner, who pays the taxes, has no redress.

It is evident from the action of the New England Rubber Club, composed largely of manufacturers, that the time has passed when new burdens can be placed upon the rubber trade without protest. Besides, the members of the Boston organization deal with the matter as American citizens, jealous of any concession that may possibly be granted to persons of other nationalities, empowering them to discriminate against the interests of the United States.

Whether or not anything may result from the rumored proceedings at Pará and the prompt notice of the same by the New England rubber men, the matter still is of interest from a viewpoint apart from anything noted in the preceding paragraphs. It all affords evidence of a growing tendency toward closer relations between the rubber producing and rubber consuming interests. The manufacturer will not always be content to buy his raw material in the nearest market, without giving a thought to trade conditions anterior to that stage. The rubber consumer at Boston or Manchester or Hanover has a very direct interest in whatever relates to the conditions of rubber production and its transmission to market, and the action of the New England Rubber Club may be regarded as the first step in a new policy which, ultimately, will be adopted by important consumers of rubber everywhere; that is, of taking an interest in and declaring themselves in regard to whatever affects general market conditions for rubber, in whatever country, and whether based upon governmental or private initiative.

REGULATION OF SELLING PRICES.

WE regret that *The India-Rubber Journal* should have construed some remarks in our October issue, headed "A 'Timorous' Association," as an unjustified digression from THE INDIA RUBBER WORLD's rightful field. We beg to extend to our British neighbor the assurances

of our most distinguished consideration, and to state that it is not our desire to attempt in any way to regulate the rubber trade, even at home. Above all things, we desire to avoid "interference in a purely territorial matter," as the *Journal* evidently regards the comments in our October number, which referred to a state of affairs in the *Journal's* country merely as a text for considerations meant to be equally applicable nearer home, where a rubber manufacturer's association has recently taken shape.

The point is this: Is a manufacturers' association to be described as "timorous"—which our dictionaries define as "Fearful; timid; shy; shrinking"—because it fails to accomplish the impossible? What we apprehend to have drawn *The India-Rubber Journal's* criticism of the British manufacturers' association was its failure to do certain things in relation to the regulation of selling prices, and the difficulty of such regulation is due to reasons not affected by territorial limits.

As we remarked in the previous article: "The same conditions exist in England as elsewhere." If A, B, and C consent to any price agreement—whether as to a common fixed price or "a percentage advance on each firm's own prices"—strict compliance with the same may not be possible unless the firms are of like financial strength, or possess business ability in like degree. For which reason we have deemed it the part of wisdom for manufacturers of rubber goods—more than goods of almost any other class—not to deal with price regulation as the chief function of their associations, whether in England, Germany, or America.

As for Tariff and Free Trade in this connection, we had not thought of the matter until it was suggested by our contemporary, in its comments upon our article. Nobody in America thinks of the tariff in connection with the general rubber industry. Rubber goods are included in the United States tariff schedules, it is true, but this fact is perhaps the smallest element in the success of the rubber industry here. We continually import more rubber goods, in certain lines, and our exports of rubber goods are made to Protection and Free Trade countries alike. Of course the tariff question more nearly affects the rubber manufacture in some other countries, but no consideration pertaining to tariffs would, in our opinion, affect the situation which an attempt was made to outline in our former paragraph, beginning "The same conditions obtain in England as elsewhere."

THE RECORD PRICE FOR RAW RUBBER, up to this date, was paid at the London auctions on November 11, for a lot described as "Fine thin Ceylon biscuits, part dark." The price was 5 shillings 9½ pence per pound, equivalent in United States money to \$1.40½. It is equivalent also, to 15 francs or 13 marks per kilogram. The highest price reported for regular Pará rubber at the same sale was 5 shillings 1 penny [= \$1.23½]. Rubber from the Amazon having advanced materially since the date above mentioned, cultivated rubber from Ceylon and the Straits, if now offered, doubtless would bring more than the figures given. In fact, some Ceylon rubber is known to have been bought in London at private sale, by an American house, at upwards of 6 shillings, and sold for consumption at

an advance. From present indications, rubber prices are likely to become higher before they are permanently lower, and in this connection we may mention that prices for the better grades have already gone beyond the limits of a very comprehensive table recently brought out by a London house, giving equivalent figures in English, American, French, and German money, for comparing market reports on rubber. The table is not applicable to rates higher than \$1.33½ and its equivalent in the money of other countries.

A CLOSE STUDY OF THE MANY PATENTS that have been issued in America and abroad for processes for vulcanization reveals very little that is new for the last thirty years; that is, new in principle. There are to-day three lines of practice that are generally followed. The first of these is where live steam is made the vehicle for carrying the heat, commonly known as the "wet heat" cure; the second where dry air or steam heated metal is the heat carrier, known as the "dry heat" cure; and the third where the goods are exposed to the action of chloride of sulphur, known as the "cold" cure. These are all old in principle, although revised and improved from time. It is therefore interesting to note that an entirely new type of cure has been developed in the utilization of electric heat, or the "electric" cure. A superficial examination of the claims that cluster about the process would lead one to prophesy for it a very wide application. Experimentally it is all that could be desired, and if it proves itself commercially it will rank as one of the few departures from the old line practice that rubber manufacture has beheld.

THIS IS THE DATE, according to a report in the *Mexican Herald*, for the resignation to take effect of the Hon. Edward M. Conley, for the past 3½ years vice and deputy consul general of the United States in the City of Mexico. Our readers will remember that Mr. Conley recently distinguished himself by an official report in which he declared the rubber planting business to be based upon fraud. But even if honestly intended, he could see no future for rubber cultivation, in view of the probable production of synthetic rubber. Considering how dark all things appeared to Mr. Conley, there is an element of appropriateness in his choice of a new occupation, which is reported to be the manufacture of wood charcoal.

"RABBIT WEED" HAS BEEN DISCOVERED AGAIN. We do not make this assertion upon our own responsibility, but upon that of Mr. B. F. Spencer, of Denver, who is quoted in the *Santa Fé New Mexican*, of October 21, 1904, as saying: "I discovered this plant at Glorieta [New Mexico] September 7, 1902." We wish that he had recorded also the hour and minute of the great discovery. But this, perhaps, is a detail of less importance than the further announcement by Mr. Spencer: "Later, we expect to erect a factory at or near Santa Fé." In view of the definiteness of this statement, it will hardly be worth while to look for the new factory *earlier*. Of course a rubber factory is referred to, and Mr. Spencer adds: "The rubber trust has offered us 85 cents a pound for our entire output." Not the least interesting point in this connection is that, through Mr. Spencer, our old friend the "rubber trust" has been discovered again.

MAKING BLACK SUBSTITUTE.

AMONG the so-called "substitutes" used by the manufacturer of rubber goods are "Black sub," "Corn oil," etc. As one of the titles suggests, it is made from corn oil. Its

manufacture is such a simple matter as to lie easily within the means of factories of ordinary capacity. It is assumed that the factory has the ordinary conveniences, and is piped for illuminating gas, for, in the manufacture of "black sub," great heat is important, and is supplied by gas quickly and economically.

A tank of boiler iron should be provided, cylindrical in shape, capable of holding one or more barrels of corn oil, and placed so it may be filled at its top. Such a tank, located in the factory basement, could be filled from barrels on the main floor with little trouble or waste, by placing the tank immediately beneath the floor which had been provided with a small hatchway or trapdoor. Tank should be provided with faucet for drawing off oil as required, or it may be piped directly to the kettle for boiling. Gas jets should be arranged around the base of this tank so its contents can be heated in advance of use. This is simply economy in time. Within convenient distance of the tank should be another cluster or circle of gas jets in a chamber shut in at the sides, open at the top, properly constructed and of a strength to sustain a kettle having a capacity of 8 gallons.

Still another cluster of gas jets should be provided over which sulphur can be melted. Also a cooling box, 2 × 3 × 5 feet, constructed of wood. The apparatus now consists of a boiler iron tank for holding the supply of corn oil, a heater for boiling the oil, a heater for melting sulphur, and a cooling box.

Two strong men are required to handle the work properly. Eight gallons of corn oil are drawn from the tank, and 20¼ pounds of sulphur weighed into a large dipper, and each placed over its respective heater. The oil having been previously heated, attains the boiling point quickly, and for 30 minutes should be kept at a temperature of 470° F., and constantly stirred. The sulphur, being now melted, is added to the boiling corn oil. It must be added hot to prevent crystallization. The workmen must be prepared for prompt and skilful action at this point, for no sooner does the sulphur mix with the boiling oil than the contents of the kettle rise rapidly, and before it can boil over must be removed and emptied into the cooling box where it may be stirred. When cold it is dumped upon and tied up in large cloths, or placed in pans ready for use, as convenience or necessity suggest.

In this manner black substitute is manufactured.

The boiling will reduce the quantity somewhat, say 2 per cent., and from a weight of 69¼ pounds material, a batch should result weighing about 68 pounds. The cost of such a quantity is as follows:

| | |
|-------------------------------------|--------|
| Corn oil—8 gallons (49 pounds)..... | \$1.52 |
| Sulphur—20¼ pounds..... | .51 |
| Labor—two men ½ hour..... | .15 |
| Gas—at \$1 per 1000 feet..... | .05 |
| Total..... | \$2.23 |
| Or, say .0328 cents per pound. | |

The cost of gas was taken during production of 2074 pounds, 1300 feet being consumed. It will be noted that something over 41 per cent. of sulphur is required to make this substitute, while to oxidize cotton seed oil or rape seed oil requires but 26 per cent. A recipe which has been given for making substitute from rape seed oil is as follows:

| | |
|---------------------|------------|
| Rape seed oil..... | ½ gallon. |
| Benzine..... | 1 gallon. |
| Sulphuric acid..... | 14 ounces. |
| Magnesia..... | ½ ounce. |

J. W. C.

Cambridge, Massachusetts, November 7, 1904.

NEW TRADE PUBLICATIONS.

TYER RUBBER CO. (Andover, Massachusetts) have issued under a 1904 copyright a new edition of their very complete illustrated catalogue and price list of Druggists' Sundries and Miscellaneous Rubber Goods, which was mentioned first in *THE INDIA RUBBER WORLD* November 1, 1902 (page 54). The arrangement of the catalogue remains the same, which will commend itself to those users of it who have become accustomed to its make-up, but there are apparent various changes in the list of goods, indicating the tendency of the company to make its products conform to the changing demands of the trade. Some of the new items listed are dental dam, hospital blankets, and veterinary syringes. The illustrations in this book are admirably executed, color printing being introduced effectively to give an adequate idea of the appearance of the goods described. [10" × 7½". 112 pages.]

THE HOHMANN & MAURER MANUFACTURING CO. (Rochester, New York) issue a brochure, "The Making of Thermometers," with illustrations of various processes in this industry, which cannot fail to prove of interest to the practical rubber man, in whose work so much depends upon the proper registering and indication of differences of temperature. The making of a really accurate thermometer is shown to require the greatest nicety of work, and it is due to such work that the instruments manufactured by this firm have attained so high a reputation. [5½" × 7". 11 pages.]—The same firm send us also an illustrated catalogue of Long Stem Thermometers, adapted to use in various industries, including the leading branches of the rubber manufacture, and especially in connection with vulcanizers of different types. Incidentally this book, also, contains not a little matter of interest regarding the requisites of a high grade thermometer and the means employed in the production of such interests. [6½" × 10½". 42 pages.]

CONTINENTAL RUBBER WORKS (Erie, Pennsylvania) issue an illustrated priced list of Mechanical Rubber Goods and Plumbers' Supplies, embracing a wide variety of molded work, much of which is special with the company. It is an exceedingly neat catalogue. [5½" × 8". 19 pages.]

THE GUTTA PERCHA AND RUBBER MANUFACTURING CO. OF TORONTO, LIMITED, issue an illustrated price list of Yachting, Tennis, Lacrosse, and Vacation Shoes. The illustrations indicate that a handsome line of goods is being produced. [3½" × 6¼". 10 pages.]

MILLER BROTHERS (Baltimore, Maryland) issue an illustrated Net Price List for 1904-05 of an extensive line of Druggists' Sundries and Rubber Specialties, of which they are jobbers on a large scale. A further reference to the firm appears in the news columns of this paper. [6" × 9¼". 48 pages.]

PIRELLI & CO. (Milan, Italy) issue in pamphlet form some "Notes Upon the Industry and Works" of that company, in connection with their exhibit at the St. Louis Exposition, recording the development of the business from its foundation in 1872 by Signor G. B. Pirelli, and giving views of the various plants of the company in Italy and Spain. In addition to the general manufacture of rubber goods the company have manufactured and laid submarine cables to the length of 2534 kilometers (=1571 miles). [8¼" × 11¼". 22 pages.]

ÉTABLISSEMENTS INDUSTRIELS E.-C. GRAMMONT—Alexandre Grammont, Successeur (Pont-de-Chéruy, France), issue a general catalogue of insulated wires and cables, with references to the general manufacture of rubber goods at the same works. [8¼" × 10¼". 32 pages.]—Also, a special Report descriptive of their factories and products, of which copies in

French, English, and other languages have been received. [8¼" × 10¼". 15 pages.]

TEXTILE MACHINE WORKS—Thun & Janssen (Reading, Pennsylvania) issue a very complete and well got up illustrated catalogue of Braiding Machines for all purposes, including a number which appear to be adapted to the various branches of the rubber and electrical industries. [6" × 9¼". 78 pages.]

ALSO RECEIVED.

WOVEN Wire Rubber Co., New York.—The Horseshoe Problem. 8 pages.

I. B. Kleinert Rubber Co., New York.—The Dress Shield Book. [With 21 illustrations of different styles and brands.] 24 pages.

The Republic Rubber Co., Youngstown, Ohio.—Republic Tires. 14 pages.

The Peter Union Tyre Co. (Mitteldeutsche Gummiwaaren-Fabrik, Louis Peter), Frankfurt o/M., Germany—[Peter's patent rim and tires.] 4 pages.

The Continental Caoutchouc and Gutta Percha Co., London Branch—The Gordon Bennett Race, 1903. [Relates to the success in this race of the "Continental" tires.] 37 pages.

The Goodyear Tire and Rubber Co., Akron, Ohio—Catalogue C 41. Carriage tires, tire machines, channel steel, wire and supplies. 32 pages.

H. D. Weed, Canastota, New York.—Weed's Chain Tire Grip. 8 pages.

MR. CUDAHY'S COMPANY OUT OF DOORS.

A NEW YORK firm of brokers advise *THE INDIA RUBBER WORLD*: "There has been trading on the Curb in the shares of the Two Republics Chartered Co. at around 58. This trading has been small, however, amounting to two or three hundred shares a day, between Curb brokers who do not give up their principals. We understand that the company's office is at No. 52 Broadway, and beyond this we know nothing in regard to the concern." The concern referred to is the latest successor to the International Rubber and Trading Co., which, in turn, succeeded the Para Rubber Plantation Co.—John Cudahy, president—to which this Journal has devoted considerable space hitherto. Trading on "the Curb" takes place in the street, in front of the New York Stock Exchange, in shares not recognized on the Exchange. The company's activity apparently is still confined to trading in shares, instead of trading in rubber.

SOME WANTS OF THE RUBBER TRADE.

[299] A CORRESPONDENT at Buffalo, New York, desires "the address of manufacturers of weaving or knitting machinery for weaving or knitting fabric for hose and belting—hose for steam, air brake, or fire engine purposes."

[300] A correspondent at Dayton, Kentucky, desires "the address of the owner of the Hulbert pillow ventilator."

[301] A correspondent at Greensboro, North Carolina, desires "the address of the concern which makes the 'Bedelia' rubber balls, that you press and a stocking comes out; also the manufacturer of the little rubber snakes."

[302] A correspondent at Cincinnati, Ohio, desires to know who supplies "a new article which is now on the market, in the shape of a rubber razor wipe that is used by barbers in taking lather from the razors."

[303] A correspondent at Toledo, Ohio, writes: "Will you kindly inform us where we can get Gutta-percha in sheets?"

[304] A correspondent at Trenton, New Jersey, inquires for the address of "any one who manufactures powder mixing machines, for mixing together the dry compounds, for compounding with rubber."

EXPLORING FOR "CASTILLOA" RUBBER IN PANAMA.

Experiences of The Editor of "The India Rubber World."

FIRST LETTER.

To Panama in the Rainy Season.—Fortune Island.—Colon.—Along the Panama Canal.—Panama City.—The *Almirante*.—Toboga Island.—Queer Fish.—Sleeping in the Rain.—The Quebro Outlaws.—*El Capitan's* Fears.—Almost Wrecked.—In the Lee of Gobernador.—The "Pioneer" Comes Aboard.—Ashore at Last.

IT was decidedly against my better judgment that I found myself *en route* for Central America in May, and due to reach the infant republic of Panama during the rainy season, and when yellow fever might be too easy of acquisition. Nevertheless, there I was, passenger on the *Allianca*, with two fellow adventurers, while a third was waiting our arrival in Panama city. The exploring party consisted of four—the "Prospector," a well known mining engineer; the "Scout," then in Panama, getting together supplies, engaging guides, and chartering a schooner; the "Commodore," and the writer. My task was the examination of some 800 square miles of wild lands, privately owned and long forgotten.

The voyage to Colon was uneventful, but enjoyable, although it grew warmer each day, and side awnings and wind scoops told of increasing nearness to the tropics. In due time Bird Island rock was sighted, where is a lighthouse, flagstaff, and thirteen cocoanut palms, but no sign of life on the dazzling white beaches. Later came Fortune island and, stopping far off shore, the one white resident came off to us in a jolly boat rowed by a half dozen husky negroes and got his mail. Although the sea was smooth as glass, of a wonderful indescribable blue, and the little cluster of houses in the distance in a setting of graceful palms, with foreground of snowwhite beaches, was most beautiful, the heat was killing and we were glad when the steamer left it all behind. Later the light on Cape Maisi, Cuba, was raised, and then came the boisterous and lonely Caribbean sea. Heavy thunder storms soon became frequent, and the heat during the day was intense, but the nights, as the moon was full, were glorious. Finally, on the last day of May, at 11 in the morning, we sighted the rugged coast of Colombia, shadowed by masses of deep cloud, and not long after were in Colon.

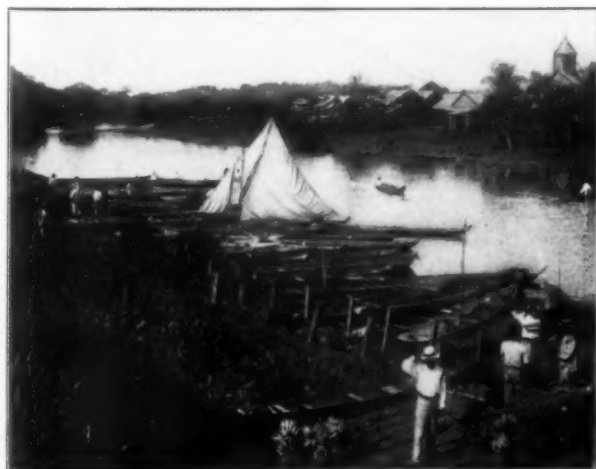
Although soon transferred to the train that crosses the Isth-

mus, we had a chance to see the building where 24 United States marines stood off 400 Columbian regulars, to take in the negro huts that cluster about the town in every swampy spot, and to size up the small, scraggy horses, the parrots, monkeys, and a good percentage of Colon's 2000 inhabitants.

The afternoon train scheduled to leave at 2.45 gets away promptly at 3.30. Almost at once the journey is made interesting by the relics of the French canal diggers, and such relics! Trains of cars abandoned, overgrown with vines, trees, and lusty weeds; mountains of corroding iron pipe, hundreds of tons of rusty rails, donkey engines, locomotives, dredges—all crumbling, rotting, sinking out of sight in the slime, or covered by the rank swamp growths. Further on were huge warehouses, said to be full of expensive machinery, and then the chateaus of the French engineers, once trig and neat, now tawdry, desolate, deserted. We saw the Chagres river, and very harmless and muddy it looked; observed Monkey Hill cemetery, and wondered why the French engineers elected to live in a swamp and be buried on a hill; admired the fine work done in excavating the Culebra cut; took note of the types of jungle growth, and at 6 in the evening arrived at the city of Panama, were met by the Scout, and at once taken to the Hotel Grand Central.

Here was a deadly, sticky, oppressive heat, with not a breath of air stirring. The bare bedrooms were like ovens, and even the cone of mosquito netting that hung over the bed was to the imagination as stifling as a blanket. It was too hot to think of sleep, so we wandered about the city, interested, amused, and disgusted—interested by the quaint and ancient architecture, amused by the police custom of blowing whistles in concert when the clocks struck the hour, disgusted by the smells that many side streets developed.

The next morning after coffee we went down to the water front, where, lying high and dry on the beach, as the tide was out, was the *Almirante*, the 60 ton schooner that was to take us to our destination. The crew of five negroes, headed by the Mate, were slowly getting our outfit aboard, and at the same time chaffing the crews of nearby hog schooners that were un-



IN THE CANAL ZONE.—RIVER VIEW.



CATHEDRAL SQUARE AND HOTEL GRAND CENTRAL, PANAMA CITY

loading by pushing their squealing freight into the water to swim ashore as best it could.

From here we went to Don Pablo's offices to discuss food, medicines, hammocks, ammunition, clothing, etc., until it was time for noon breakfast and the regulation *siesta*. Just a word about Don Pablo. One of the wealthy and progressive merchants of the new republic, he not only treated us with every consideration, and purchased most of our supplies, but it was due to his alert helpfulness that we were not tied up on that torrid city for a week or more, instead of getting away in three days. But to return to our story. The breakfast was not a success from an epicurean standpoint, nor was the *siesta*, for it was too hot to sleep. So, assembling in the foyer, we watched the drowsy darkeys on the curbs opposite, and waited for the midday heat to pass. After a time I was courageous enough to look at the thermometer and it registered 97° F., the air fairly reeking with humidity. Along in the afternoon I wrote some letters, but could get no stamps, as the government had interdicted their sale at hotels, because the tourists had been in the habit of buying them for curios, instead of attaching them to letters as they should; at least that is what the clerk said.

Finally, on the afternoon of the third day in Panama, all was ready. The *Almirante* lay about a mile from shore. There is a 20 foot tide, so it is said, and the row to the schooner gave us a view of many cattle and hog boats, and a good idea of the water front of the quaint city that stands at the Pacific entrance of the canal. I have said that the crew consisted of five, but neglected

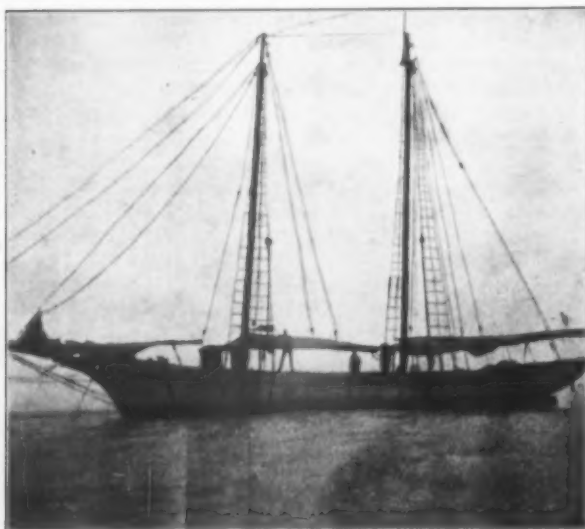
to mention the crew's cook, Jungo, and also our own, Raphael. I had also forgotten the dozen live hens that were tied two and two, and wandered over the deck at will, as well as Domingo, the leanest, dirtiest, tiniest tramp kitten that any country every saw.

Don Pablo and Don Raimon (another friend) came out and saw us off, and by 7 o'clock we were sailing out of the harbor, headed for Toboga island for ballast and fresh water. All trace of the deadly heat ashore was gone, and the effects, a slight fever that all experienced, quickly disappeared. When darkness came, we slept on deck under the stars wrapped in blankets, and awoke in the morning to find the boat at anchor just off the little town of Toboga. It was raining gently, but no one cared, and after coffee we went ashore to buy eggs, pineapples, and bananas, and incidentally to get a shore breakfast. This was served in a neat room by pretty Indian girls, and was the best meal we had eaten for a week.

The town has about 100 dwellings of bamboo, plastered with cow dung, and a small church. It is nestled at the foot of a high ridge, cultivated almost to the top, while about the houses cluster coconut palms, and pawpaw and chicle trees. It is a very healthy place, as the water is good and there are no mosquitoes. Late in the afternoon we got away, but as the wind was light, did little but drift. Then it was that we began to speculate upon the number of days it would take to reach our destination, and to recall the fact that in these same waters Cortez once lay becalmed for seventy days, and at this season of the year, too.



PANAMANIANS.



THE SCHOONER "ALMIRANTE."



ON THE BEACH. GUBERNADOR ISLAND.

The next morning we were still in sight of Toboga, and spent much of the day in rifle and revolver practice, the gulls on bits of driftwood making capital targets. There was also the chance to size up *El Capitan*, a nervous, wiry native Panamanian, and to discover the very primitive ideas of cleanliness that our cook was possessed of. For example, his plan for cleansing the tin coffee cups was to pour one half full of water, rinse it around, pour the same water into another, and so on until all were thus washed. He also had a barrel of "biltong" or pickled beef for the crew, that was washed each day and hung on a line to dry. It certainly was strong meat, and the smell of it aft came near making us all vegetarians. Slowly the boat drew on, the passengers killing time as best they could, till finally Punta Malo came in sight. It was at this time that our first use for the medicine chest occurred. The Commodore rolled his sleeves high to the tropical sun and in a few hours had a pair of the reddest, sorest arms that were ever seen. They gave out heat like base burners, and ached if one pointed at them, so they were anointed with cooling salves, hung in slings, and nearly cured by the time he got ashore.



JUNGO, COOK ON THE "ALMIRANTE."

And so we sailed and drifted, chiefly the latter, sleeping on deck until driven into the little cabin by an unusually heavy shower, usually to be driven out again by the heat, the bilge smell, and the ants, of which latter we had our own private colony. After a time we left Panama bay and felt the long swell of the Pacific. Then was sighted Punta Moro Puercos (Cape The-Death-of-the-Pig), and after that came a coast—rugged, mountainous, with no harbors, and the mountains shadowed by dense clouds, with all the evidences of continuous and heavy tropical rainstorms.

After more drifting came Punta Marieto, which we rounded, and, turning due north, made for the Gulf of Montijo, where the schooner was to lie while the exploring party was ashore. Even after rounding the cape the wind still continued light, and progress came chiefly from the impulse of the Pacific swell.

In these waters were many sharks, two of which carry a half dozen bullets apiece which I pumped into them from a Remington repeater early one morning. Then too, there was a

water snake, *Culebra marina*, about three feet long, that was often in evidence, sometimes as many as thirty being seen in a day. We fished constantly, but got no bites, but the crew speared some fish of a kind new to me. One, long and slim, resembling a mackerel, was of a beautiful bronze tint, with a spike on its nose, and a back fin running from the gills to the tail. Another short, chunky, of a dingy blue color spotted with white polka dots. The natives called the former the "durado," but had no name for the latter.

Our drifting by the point did not last long, as the weather suddenly changed and the wind became so squally that the captain put out to sea lest he pile his vessel upon the inhospitable shore. That night I tried to sleep in the cabin but it was too disagreeable, so I put on a light rubber coat and rubber boots and slept soundly on deck with the rain beating in my face. It was so scorching hot in the daytime that when drifting a tarpaulin was rigged as a shield under which were swung the hammocks, making quarters that were fairly comfortable. Some one called it the "Touraine," because when it was half done it began to rain.



"THE TOURAINE"—CANVAS SHELTER ON THE "ALMIRANTE."

Soon the schooner was off the Quebro, a part of the territory said to contain a large settlement of outlaws. These fugitives from justice had heard of the approach of the *Americanos* and were rumored to be prepared to resist any examination of that part of the land. If they believed the stories told them by the Indians, that they were to be enslaved and have numbers branded upon their foreheads, one can scarcely blame them.

The objective point, however, was farther down the coast, so we only saw the mouth of the Quebro river, with frowning mountains for a background. Very glad we were that the Quebro was not then in our itinerary, for that part of the country was black with thunder clouds and drenched with showers that bore a close resemblance to cloudbursts.

Coasting along still further we descried the mouth of the Marieto river, where the first landing was to be made. Here a fresh difficulty arose. *El Capitan* feared the shore and would not go nearer than five miles without a pilot. After a lurid conference, in Spanish, Portuguese, and English, it was

suggested that he circle the nearby island of Cebaco, stop at Gubernador island and borrow a pilot. And so it was decided, and the start made just as night fell.

That night the air was heavy with moisture and had in it all of the makings of an electrical storm of great violence, but aside from the St. Elmo's fire that appeared at the mast head nothing happened. The crew were much exercised about these strange balls of light—it was *Malo* with a capital M to all of them. No such superstition affected our party, however, and when the morning came we laughed away their fears, and as



PART OF THE PANAMANIAN ARMY.

the day advanced they grew ashamed of the terrors of the night. By noon the schooner was off Cebaco, which ends in a jagged reef where rough water is to be found. As the wind was light and the current strong, the *Almirante* was carried quite close to this danger point, although both jibs and the fore and mainsail were drawing full, the two latter being wing and wing. Just as we passed the reef, with no warning at all, came a squall that was as near as possible to ending the cruise in disaster. The *Almirante* heeled over until her rail was under, and plunged forward like a race horse. *El Capitan*, at the tiller ropes, screeched shrill orders, and the crew worked like demons to get the flying jib and the foresail down. In the face of that wind it was no mean job, as the sail was as rigid as iron and it was not until a sailor climbed the mast and pulled the hoops down, a few inches at a time, that it was lowered. Even then it could not be tied up, but bellied far out into the water. The same difficulty was experienced in reefing the mainsail. But finally, after much labor, the schooner was got in hand and was driving out to sea under jib and reefed mainsail. As the squall had now turned into a hurricane that drove the warm spray from the wave tops into one's face like hail, it looked as if we were likely to be driven far out of our course. *El Capitan* therefore decided to try to come about and run between Cebaco and Gubernador for shelter. Three times he tried and each time missed. Then he prepared to jibe. The *Americanos*, however, would not have it, urging that either the rigging would part or the masts be carried away by such a measure, and he finally gave it up. Then he tried to come about again, and by lowering the jib for a moment, and raising it again, was successful; the old tub came about and headed for the haven. Then came three hours of as rough sailing as I ever expect to see. There was no particular danger, if everything held, but the seas that pounded the side and often came aboard were big and angry, and the wind fairly shrieked. Nothing happened except the parting of a stay, and the partial collapse of the cook's galley, and by nightfall anchor was dropped close under the shelter of

Gubernador, in still water, and the weary voyagers went to sleep to the roaring of the breakers on the other side of the island.

Going ashore in the morning we found that the island was owned by our friend Don Pablo, and it was here that his pearl fishing schooners refitted. The few inhabitants were Indian, and in looks, habits, and manner of living just what one finds from Mexico all the way down to the Amazon. They were friendly and brought us pineapples that were most delicious, and, after much palaver, secured a pilot. It was while walking along the shore from one little settlement to another that the Scout, with whom I was, had an unpleasant experience. We were under a tree that looked for all the world in bark and leaf like a pear tree, with a fruit that had the appearance of a small apple. We each picked half a dozen, and the Scout bit into one, remarking that it tasted like a sweet apple. I used mine, however, to pelt the native dogs that were following, and then both forgot the episode. After the return to the schooner, however, while getting under way, the Scout was taken suddenly ill, vomiting, retching, and complaining that he felt as if he were on fire inside. We gave him such simple remedies as were obtainable, but it was some hours before the attack passed off. The natives said later that both tree and fruit, known as the bitter *mansana*, or arsenic apple, are intensely poisonous. A horse tied under the tree for a few hours becomes very ill and loses its hair, while it is sure death for a man to eat one of the apples.

With the pilot aboard we soon gained the gulf again and ere long were off the Palo Secco (the withered tree) where, if luck favored, guides and mules were awaiting us. This time our captain ventured within three miles of the shore and sure enough saw two men. A boat was sent and, in course of time, night having fallen, a light appeared dancing over the waves, and soon there stepped aboard the Pioneer, who was to furnish guides and transport. He had been waiting nearly a week and would have left the next day believing that we had turned back or been wrecked by one of the Pacific hurricanes.

The Pioneer had been in that country for many years and his stories of rubber gathering up in the Cauca, and adventures in the Darien with the fierce San Blas Indians, were most interesting. As is well known, these savages do not allow trespassers upon their lands although they do not molest those who gather rubber in the wilds adjacent to their domain. The Pioneer acknowledged that he once broke an agreement with a chief, stole across the river that marked his boundary, and began work on the rich forbidden forest. As a result his men



CAMP RIO NEGRO (TO BE DESCRIBED LATER).

were shot down, one by one, until only he and one negro escaped.

Another time he was caught far up a river by the dry season, and had to wait for the rains. When they finally came and he got his rubber afloat, they had for provision only rice and bananas. Floating down the river one evening in the bright moonlight they came to a fine stretch of beach, and he at once ordered the canoe men to make camp there. They refused, with every evidence of extreme terror, as they said the place was haunted. The Pioneer, tired and hungry, forced them to do as he ordered by threatening them with his revolver, and soon had supper and was quickly sound asleep under his mosquito netting. About midnight, just as the moon was setting, he was awakened by a strange and dreadful cry. Sitting up to call the crew they suddenly threw themselves upon him, held him down, and practically gagging him kept him quiet until the screams ceased. Then they whispered that it was death to speak aloud and returned to their sleeping places. The next morning they explained that the screams came from the spirit of a man who was murdered and buried with money on him, and if any one had spoken the spirit would have at once attacked and killed the speaker. No whit impressed, the Pioneer searched the river bank and finally found a huge and ancient sloth which he promptly killed. And thus was the uneasy spirit laid, for the cries ceased from that time.

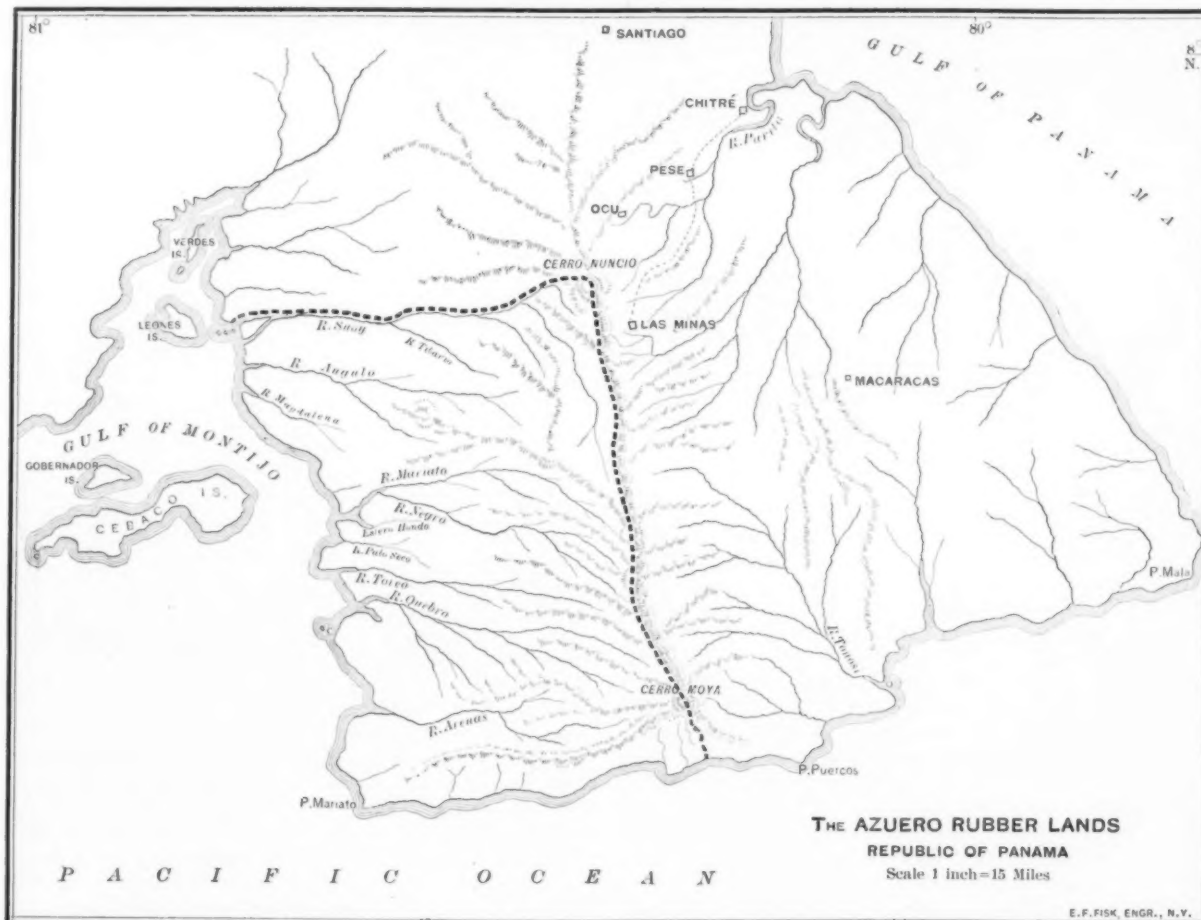
The rubber trees up there, so he said, were from two to three feet in diameter and most abundant bleeders. They always

cut them down to secure the rubber, as they get more that way and know that if they spared them the next crew of gatherers would destroy them. He said that on the land we had come to examine the rubber gatherers had been in the habit of cutting the trees down, but that two years before the practice had been stopped, and a premium of \$25 paid to any one who informed of such destruction. As the whole tract, some 500,000 acres, was private property, and wild, and as most of the Indians lived on the other side of the mountains, the rubber was quite plentiful and with a very little system the crop could be greatly augmented.

The next day was undertaken in good earnest the work of getting our stores and ourselves safely ashore. And no light task we found it. The surf was tremendous and it was impossible even with the skilful management to get to land without being drenched. The men were landed in the ship's boat, while the stores came ashore in a dugout.

While the goods were being landed the Scout and the Prospector stripped and took a bath. Later they shuddered when they remembered it, for the sharks that haunt that shore, coming far into the shallow water, are big and voracious. In the meantime I was looking at the forest. Much to my delight I found *Castilloa* trees growing within 100 feet of the shore. Small ones to be sure, but thrifty. One about three inches in diameter had been tapped, and from the cuts I stripped some good strong rubber.

[TO BE CONTINUED.]



NEW FEATURES IN TIRE CONSTRUCTION.

THE REPUBLIC RUBBER CO.'S NEW TIRE.

A NEW side wire tire which for some time has been under severe tests, which have proved highly satisfactory, will be placed upon the market soon, it is announced, by the Republic Rubber Co. (Youngstown, Ohio). There are some special features embodied which have never heretofore been used, and which after considerable experimenting, have developed a degree of promise very encouraging to the manufacturers.

There are no cross wires or holes in the tire itself to cut out. It is all rubber. The chief point in the attachment of the tire relates to the metal plates or bands passing underneath the tire, and under the retaining wires at the side, thereby forming a "clinch" base.

In cushion rubber tires for vehicles, having retaining wires for securing the elastic body in the rim, it has heretofore been common practice to embed in or extend through the rubber

so the band support need not be embedded in the rubber or extend there through.

The invention also designs to provide improved supports for the retaining wires, which do not affect the resiliency of the tire, and further, to provide a cushion tire embodying an improved construction. This tire will be marketed in sizes 1½ inch and larger. It is the subject of United States patent No. 755,259, dated March 22, 1904.

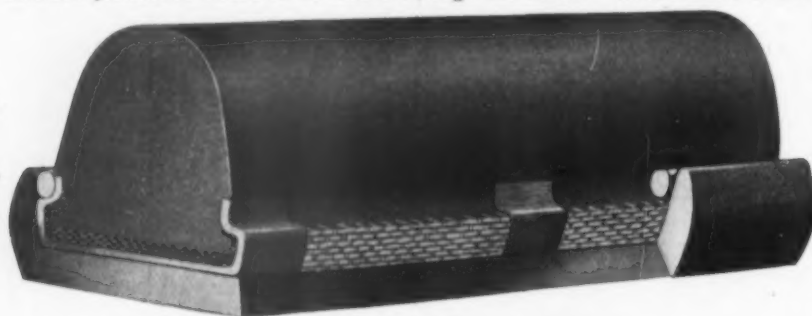
THE G & J THREAD FABRIC TIRE.

As a result of an exhaustive series of tests, relating to the construction of automobile tires, the G & J Tire Co. (Indianapolis, Indiana) have introduced what they call their Thread Fabric tire, an important feature of which is the substitution of a special thread fabric for the close, square woven cloth formerly used. The term "square woven" is used to describe the special weave—the feature of the cloth being that the fill threads were of the same number, size, and strength as the warp threads. Thus the cloth was as strong one way as the other; hence the term "square woven."

The effective strength of the fabric entering into the construction of a tire does not depend entirely upon its tensile strength, according to the inventor of this new process, but in a large degree upon the method used in construction, which determines whether or not the entire strength of the fabric has been used to the best possible advantage. This should be reckoned on the basis of the work performed by each

separate thread used in the construction of the tire.

In the new thread tire, the fabric is so placed and controlled that each and every thread is used to the best possible advantage; while in a tire made of square woven cloth it may be impossible to place each separate thread in the proper position to accomplish the best results, owing to the fact that the threads in such fabric cross and recross each other, one over and one under the other. In the necessary operations in the factory to prepare the square woven cloth for the actual making of the tire, one set of threads is drawn to the utmost tension, while the others, or cross threads, are left in their normal condition. Thus when a tire constructed with square woven cloth is inflated and the individual threads are put to the greatest tension, the natural tendency is for the threads to form as near a straight line as possible, and in consequence great pressure is exerted at the point of contact where the threads cross each other. When the bias fabric changes its position, as it must when the tire is in service, and sets up a chafing action between the fill and cross threads, the result is that the individual threads of the tire are destroyed, not by pressure, but by the chafing action of one thread against the other, which action is continuous while the tire is in service.



REPUBLIC RUBBER CO.'S TIRE, SEATED IN THE CHANNEL.



POSITION OF THE PLATES ON THE BASE.

metallic supports or cross wires for the retaining wires. In practice it has been found difficult to construct a rubber tire with the supports embedded therein, and the cost of manufacture thereof was materially increased by the process necessarily adopted in such manufacture, and on account of the care necessary in accurately laying the supports in the rubber. In some instances, the elastic body was formed of parts separately formed and vulcanized together with the supports there between. Tires having metallic supports or cross wires in the rubber are also objectionable, because the resiliency of the tire is lessened by the metallic supports, and because they are destructive to the rubber when the tire is in use, and often become loose, and cut and abrade the rubber, thus lessening the durability of the tire.

The present invention designs to overcome these objections and to provide metallic supports for the retaining wires, which are securely held in proper position with respect to the elastic body, but do not extend through the rubber or body of the tire,

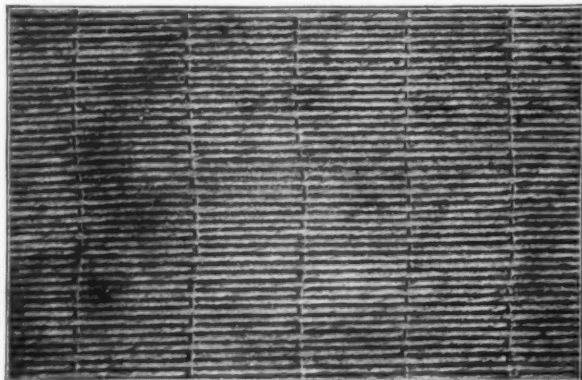


G & J TIRE SECTION.

[Molded in circular shape, so as to place the least possible strain upon the fabric of the side walls.]

Not only does this chafing action affect the threads of the tire, but it also generates an internal frictional heat. The constant subjection of the rubber and fabric to heat has a deteriorating effect on the tire.

A tire made of square woven cloth is subject to damage by any moisture which can get to the cloth by reason of a cut in the outer rubber cover, or otherwise, and as each thread in each layer of the cloth comes in contact with the other, the whole of that layer may be affected by the moisture, as the capillary attraction will allow the wet or moisture to travel the

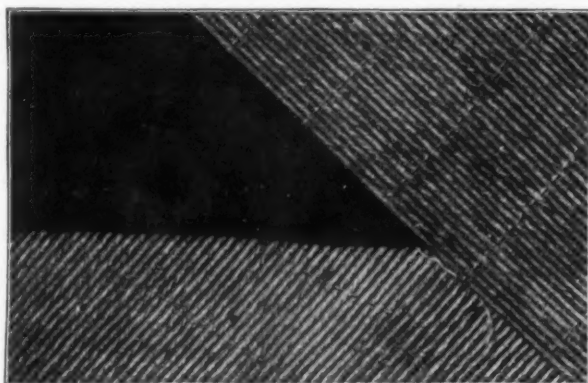


G. & J. THREAD FABRIC.

[Showing its appearance after having been frictioned on one side. Note the beads of rubber that have been forced between the threads.]

entire length of the cloth, while in the thread tire the moisture would only affect the few individual threads in direct contact with the cut, for the reason that the threads in this tire do not touch each other—an important point in considering the life of a tire.

Each layer of cloth used in this process is rubbered, or frictioned, before being put into the tire. This consists of a rubber surface on the cloth, and the rubber is pressed into the meshes of the cloth, forming, as it were, a small individual



G. & J. THREAD FABRIC.

[Showing the way the strong threads cross each other, with rubber between the layers.]

rubber rivet. When the different layers of fabric are built up in a tire, the greater part of the adhesion is reckoned on a basis of the strength of the rubber rivets referred to. These rivets are formed in the shape of the mesh of the cloth at the time it is vulcanized or cured, which is done by heat under pressure. With the cloth cut on a bias, and the tire changing in shape as it does in service, the shape of the mesh itself changes, having a tendency to destroy the adhesion of the rub-

ber to the fabric, and at the same time, the fabric changing position has a tendency to destroy or break the rubber rivet. The action is really an opening and closing one, which not only cuts off the rivet, but injures the fabric at the same time, and when once these rivets begin to let loose, the adhesive power is lessened, and the layers of fabric, or as it may be, the outside cover begins to let loose. This action materially assists the chafing action, already described, to set up a frictional action, which is indicated by the internal heat of the tire.

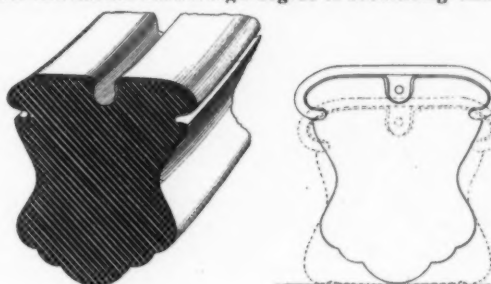
With the threads used in making the 1905 G & J tires, the fabric consists of a number of parallel threads of great strength. The uniform tension of the individual threads is assured by the fact that an absolute check is placed upon each thread, which is an essential point, and it is also important that these threads should be so laid that they cross each other at the proper angle, and by the methods pursued it has been possible to accomplish this result.

If the threads were under irregular tension, those on the greatest tension would have a tendency to exert an undue pressure on the threads which they cross at right angles, and possibly result in destroying the threads. Each thread is imbedded in a cell of rubber, forming a perfect insulation, and there is a layer of rubber between the different layers of threads, preventing the threads from coming in contact in crossing each other. By this method of construction, each thread, while acting under the same conditions and in harmony with the other threads, operates separately, preventing the heating already referred to, which is common in tires made of square woven cloth. In the thread tire there is one continuous rubber bead running the entire length of the tire between each thread, which insures a perfect union between the different layers of threads as well as an ideal union with the rubber cover itself, which allows the tire to be vulcanized or cured in what can properly be termed one solid, homogeneous mass, with merely the threads laid in the rubber. Those threads are very pliable, and allow the tire to change position in service with the slightest possible resistance, which means, as has been proved by extensive experience, that the tires are very pliable, fast, and free from internal heating.

It has also been proven that a tire of the thread fabric construction will last much longer than other tires, because with the threads there is not the self-destroying tendency that exists with the square woven cloth tire, and in consequence the thread tires will literally wear out in road service rather than have their usefulness ended by self destruction. Any tire that can stand the use and abuse of a racing car will stand anything and the new tire described here has been in use for some months, on most of the American makes of racing cars, and with the most satisfactory results.

SWINEHART'S NEW SOLID TIRE.

IN the specification of United States Patent No. 772,636, James A. Swinehart (Akron, Ohio) points out that a practical rubber tire should have a high degree of cushioning character,



long life and durability, and good traction qualities. He states that the resiliency of a solid rubber tire depends greatly upon its height and width, and the narrower the tire from side to side the better the results; but at the same time the tread should be of good traction width. His tire, therefore, has concave sides, to give the tire less body at its center, and thereby increase the cushioning effect, while the tread is enlarged and becomes even more so under load because of its convex form and head. Of the accompanying drawings, one is a cross section and perspective, and the other a diagrammatic view, in full and dotted lines, to illustrate the extreme differences in load carrying conditions. The tire is adapted to a vehicle rim of the "Clincher" type, made with inturred edges to fit into circumferential grooves in each side of the tire. The base and side widths are preferably covered with a non stretchable fabric to prevent creeping and spreading of the tire at its base.

THE AUTOMOBILE TIRE OF THE FUTURE.

[FROM "THE MOTOR AGE," CHICAGO.]

ALMOST since the beginning of the pneumatic tire there has been a continual effort to create a satisfactory mechanically fastened, double tube, detachable tire. A score of such tires were introduced in the bicycle trade and twenty score more were patented by inventors, rural and otherwise. They all fell by the wayside. The clincher tire remained the standard construction.

Those people who judge everything by precedent might say that the result of the introduction of such tires in the bicycle trade indicates positively that the same end awaits the mechanically fastened automobile tire.

There are several reasons for believing, however, that the mechanically fastened tire as applied to automobiles will be a success to just as great a degree as it was a failure when applied to bicycles. In its new usage it has two new advantages. First of all, it is more needed than it was in connection with bicycles, and secondly, it is susceptible to styles of construction not feasible when made to fit onto bicycles.

The greater need of a mechanically fastened tire on an automobile is aptly explained by the more severe service to which it is put. This greater service necessitates a tire much stronger in proportion to its size than a bicycle tire, and hence a tire in every respect much more difficult to manipulate than a bicycle tire. Not only must the fastening of the tire to the rim be more secure and its manipulation hence made naturally more difficult, but the increased size of itself and the increased strength in proportion to size still further augment the work of placing the tire in position or of removing it.

Thus it is readily apparent that a mechanically fastened tire on an automobile furnishes a greater difference in the amount of work necessary in manipulation between it and the inflation-secured tire than was apparent between the two styles of tires on bicycles. The advantage of convenience, in other words, is more notable in connection with automobiles than it was in connection with bicycles.

The tendency of a tire to creep on the rim, while present in bicycle tires, is not so important a factor in tire usage on bicycles as it is in automobile tire usage. Thus the advantages which are offered by the mechanically fastened tire in the way of positive fastenings to prevent creeping and the demolition of valve stems is also a more important item in the present case than in the former one.

There can be little doubt, then, of the two facts that in the first place the mechanically fastened tire has inherent advantages and that in the second place these advantages are more

important in automobile than in bicycle usage. There remains, in determining the status of this tire, to determine whether in the application of it the natural advantages are outweighed by the practical disadvantages.

As a bicycle tire there is no doubt that the disadvantages more than offset the advantages. As an automobile tire it gains a new lease on life by increased advantages, and at the same time becomes more practical by decreased disadvantages.

The construction of automobile wheels is such that the tires upon them are not restricted in size and weight as in bicycle tires. The fastening means may occupy a greater space and be of greater weight in proportion to the size of the tire than when the tire is made for a bicycle. There is plenty of space for and plenty of material may be used in the making of the fastening means which, when adapted to a bicycle tire, were of necessity so delicate that they would not stand the racket. In fact, there has been shown the practicability in actual use of mechanically fastened automobile tires of a construction identical to that of bicycle tires which were failures.

From whatever point of view the matter is considered, it is evident that the present tendency toward the establishment of mechanically fastened tires in the automobile trade is not without considerable indication of eventual success.

LITERATURE OF INDIA-RUBBER.

THE CEYLON HANDBOOK AND DIRECTORY, AND COMPENDIUM of Useful Information, for 1904-05. To which is prefixed a Statistical Summary for the Colony, and Specially for the Planting Enterprise, up to June, 1904. Compiled and Edited by John Ferguson, C. M. G., M. L. C., Editor of the *Ceylon Observer, Tropical Agriculturist*, etc., Colombo: A. M. & J. Ferguson, 1904. [Cloth. 8vo. Pp. LXX + 1272 + maps and insets. Price, 15 rupees.]

THIS is the twenty-seventh annual edition of a most valuable reference book, the scope of which was outlined in some detail, on the appearance of the preceding issue, in THE INDIA RUBBER WORLD of January 1, 1904 (page 121). It will suffice here to say that the latest volume, besides being revised to date, embraces additional features of value, while some of the information contained hitherto is given more fully or with increased accuracy. The Handbook merits notice in this column because it furnishes the most accurate record to date of rubber planting in Ceylon—an interest which is destined to be of great importance to the world. Some information drawn from the new volume appears in another department of this issue of THE INDIA RUBBER WORLD.

IN CURRENT PERIODICALS.

THE Acre Territory and the Caoutchouc Region of Southwestern Amazonia. By Colonel George Earl Church. [Refers to the resources of the Acre district, and present and prospective means of access to it.] = *The Geographical Journal*, London. XXIII-5 (May, 1904). Pp. 596-613; folding map.

L'Hevea Asiatique. By E. De Wildeman. [Review of the report by Monsieur Collet.] = *Industrie et Commerce du Caoutchouc*, Brussels. I-11 (December, 1903). Pp. 234-235.

The Commercial Utilization of the Seeds of the Pará Rubber Tree (*Hevea Brasiliensis*). = *Bulletin of the Imperial Institute*, London. II 1 (March 31, 1904). Pp. 22-23.

Four New Species of the Central American Rubber Tree. By O[rator] F. Cook. = *Science*, New York. N. S. XVII-457 (October 2, 1903). Pp. 436-439.

Le Castillo et du Culture en Amérique Centrale. [Review of the report by O. F. Cook on "The Culture of the Central American Rubber Tree."] = *Journal d'Agriculture Tropicale*, Paris. IV-32 (February 29, 1904). Pp. 49-52.

Der Kautschuk liefernde Feigenbaum von Neucaledonien (The caoutchouc yielding fig tree of New Caledonia). By Dr. Otto Warburg. [With illustration of *Ficus Schlechtri*.] = *Der Tropenpflanzer*, Berlin. VII-12 (December, 1903). Pp. 581-584.

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

THE **WATERPROOF TRADE.** THERE is very little of a satisfactory nature to be said with regard to this branch. The depression of the last two years still continues and no signs of its immediate removal are discernible. One result of this is that those firms who formerly relied altogether upon this branch are extending into others, such as mechanical rubber,

or branches of the tailoring trade having no connection with waterproofing. A combination of adverse factors has militated against the home trade, more especially in the north of England; in addition to the extremely dry summer and autumn, there has been the decreased buying power of the operatives, owing to the depression in the cotton trade and various other trades which depend largely upon the staple trade for their well-being. What business has been done has been chiefly with the British colonies, though even here, notably in Canada, the demand is reported as having fallen off to a considerable extent. Pattern books are now being got out for next season, but these will not show the variety and range of materials that characterized them a few years ago. Now that the cotton trade is in for something of the nature of a boom there will undoubtedly be a larger sale of the low priced goods, both macintoshes and the showy looking overcoats made entirely of shoddy and to which the description of "shower proof" is erroneously applied. Firms who turn out really good stuff answering to its title of shower proof say that they get no encouragement, because the particular style and pattern is speedily copied by some one else in inferior materials and at a price which proves an irresistible attraction to the bulk of purchasers. The workingman seems to have satisfied himself that two or three suits of shoddy form a superior purchase to one suit of good wool and as long as this doctrine obtains there is nothing for the merchant to do but to minister to it. With regard to factory equipment it is interesting to note that in the enlarged town premises to which Messrs. H. L. Gottliffe & Co. moved some little time ago, in Blossom street, Ancoats, Manchester, the sewing machines are all worked by electricity. The whole of the machines and the five motors are of American origin, being supplied by the Singer Manufacturing Co., the installation I understand giving complete satisfaction. I believe I am right in saying that electrical power is used by the Leyland and Birmingham Rubber Co. for a similar purpose, though I am unaware of its application elsewhere in the waterproofing trade.

As the Scandinavian rubber manufacture has recently been specially referred to in this Journal, it may be of interest to add a word or two with regard to the waterproof business. So far none of the Scandinavian manufacturers have taken up this branch, and the British houses which have done business in the past have not suffered from home competition. What business has been done is not on a very extensive scale, and in common with what has occurred elsewhere the macintosh shows a decline rather than an increase in popularity. It has never been popular to the extent that was witnessed a few years ago in Holland, when certain English makers reaped a rich harvest. It is not difficult to account for this; in the first place, compared with Holland, the bulk of the Scandinavian people are poor and limit their expenditure pretty well to necessities, and in the second place, though there is a good deal of rain in summer, the climate during the major part of the

year is very severe and the macintosh garment does not prove sufficiently attractive on the score of warmth. As far as the trade is concerned it is recognized that the article is more suited to mean climes than to those where summer heats or winter colds are excessive and permanent.

I UNDERSTAND that a movement is on foot to consolidate the interests of the principal tire manufacturers, as far as the regulation of prices is concerned. There is to be no attempt at an effective combination

TIRE INTERESTS. of works, the proposed arrangement only going as far as that which has been in existence so long among the makers of elastic thread and which proved thoroughly workable. Having regard to the larger number of firms engaged in tire making, the difficulties in the present case may reasonably be expected to be greater and, it may turn out, insuperable, but there is little to be gained by speculating on the point. It is quite clear that if close competition among the various manufacturers is to take place the profits yielded by the business are not likely to prove remunerative, and a combination to the extent foreshadowed above will at any rate do something to keep up quality. There is not much information obtainable as to the proposed English Michelin company, though it is understood that the site for the factory is in the London district. From the tone of remarks in some of our papers the incursion of French capital and probably of French workmen in this connection is not looked upon with much favor. Of course the retort may be made that factories for various kinds of businesses have been started on the Continent under British auspices, but the cases are not exactly parallel. It is the imposition of prohibitive tariffs that has induced such action on the part of the British, while with our free trade the same cannot be urged on behalf of foreigners establishing themselves in this country.

Quite a modern development in the motor tire business is in relation to omnibuses for town and country use. Within the last few months motor omnibus services have been started in London and Birmingham, and also by some of the railway companies as feeders to their lines in country districts. Notably is this the case with the Great Western railway, in Cornwall. The tires generally—indeed, I think I am correct in saying exclusively—used are the twin motor tires patented and manufactured by the Shrewsbury & Challiner Tyre Co., of Ardwick, Manchester. These are designed to support heavy weights and prevent sideslip, an important point in towns such as Birmingham, where several steep hills have to be negotiated. I understand that though one or two cases of slip occurred in this town on the first introduction of the omnibuses, this was found to be due to the position of the treading (?) wheels rather than to any defect in the tires. Since the position of the wheels has been slightly altered no further *contretemps* of the kind has occurred. No doubt this form of locomotion will become increasingly popular, and the firm who have already established such a name in connection with the necessary tires would seem to be in for an exceedingly busy time.

As the subject of Gutta-percha has achieved some prominence in recent issues of THE INDIA RUBBER WORLD, it may not be superfluous to say a word here regarding its preparation from the leaves of the tree. As is well known this method of procuring it formed the subject of several patents some

THE GUTTA-PERCHA MANUFACTURE.

years ago, one outcome of which was the formation of the Gutta-Percha Corporation, Limited, with a nominal capital of £350,000. From a source intimately concerned with this company, which, as is also known, came to an untimely end, I learn that apart from its flotation which had several curious features connected with it the difficulties which proved so disastrous were lack of sufficient working capital and also the very important fact that the material obtained was by no means equal to the ordinary Gutta-percha as obtained from the mature tree. Naturally the ordinary investor would think that with the names of Lord Kelvin and Professor Ramsay on the prospectus as experts such an important point as this would have been absolutely settled. The result, however, goes to show, if more evidence of the fact is required, that though a scientist may be preëminent in some directions, his attainments are not necessarily of a universal character.

At the tenth International Shoe and Leather Fair, held in Agricultural Hall, Islington, London, from October 31 to November 4, a very prominent feature, as last year,

THE SHOE AND LEATHER FAIR.

was the exhibits of rubber heel pads, the great popularity of which in Great Britain was treated at some length in THE INDIA RUBBER WORLD of May 1 last (page 278). More than a dozen extensive displays were made, some of the exhibitors manufacturing their own goods. The only firm engaged in the general rubber manufacture, exhibiting heels on their own account, was the Hyde Rubber Works, Limited. One display was devoted to a heel of American manufacture—being made by the Pennsylvania Rubber Co.—though exhibited under the name of a London firm. A notable exhibit of rubber footwear was made by the London depot of United States Rubber Co., and a good exhibit in the same line was made by the North British Rubber Co., Limited. A feature of interest in connection with the fair was the appearance of the *Footwear Daily*, due to the enterprise of the important weekly trade journal, *Footwear*. This was probably the first daily ever published in connection with this trade. On account of its success, the suggestion was heard that such paper in connection with cycle shows might be worth while.

NOT being a golfer, I have to depend on others for information on this important topic. It seems that of all the balls on the market, the Haskell is in the greatest favor; the Kempshall is reported as being liable to crack on the surface, though the dealers are always willing to replace one that behaves in this undesirable manner in the first round. The Haskell ball is still retailed at 2 shillings, and some difficulty is experienced in filling the demand even at this price, as the balls want seasoning and must be kept in stock for some time. The solid Gutta-percha ball is still largely used in Scotland, a statement that perhaps requires a little elaboration. In Scotland, contrary to what obtains in England, the pastime is largely indulged in by workingmen who pay a penny a round on public links. It is this class who find the solid ball, which can now be obtained for 4 pence, attractive. At places like St. Andrews and North Berwick, where Mr. Balfour puts in much of his leisure time, the question of cash is of no great importance, and it is here that one hears the praises of the 2 shilling ball sung.

GOLF BALLS.

IN the course of a recent conversation with a large machinery exporting firm I was informed that the South African mining machinery business, had almost died out owing to American competition. This is a matter to which in some of its aspects I have already referred in this correspondence, but a further word or two may not be out of place. Compared with seven or eight years ago the amount of rubber used in connection with ore dressing ma-

RUBBER IN METAL MINING.

chinery has diminished, in one respect at least, owing to the general abandonment of the Frue vanner in favor of tables of the Lühlig and Wilfley type, in which linoleum is used instead of rubber for the buddling surface. In other directions, such as conveyor belts and hydraulic hose, the use of rubber has increased. I note that Messrs. F. Reddaway & Co., Limited (Manchester), have a special advertisement relative to the goods they supply for mining purposes; no doubt this branch will receive more and more attention, especially at the hands of firms such as the Leyland and Birmingham company, who have established offices of their own in the Transvaal. Perhaps it is too much to expect that the average rubber manufacturer shall have a close acquaintance with the developments in ore-dressing machinery and general mine equipment, but the fact that certain American firms have established a reputation in this by no means insignificant branch is surely worth the attention of other firms who are desirous of extending their connection, by incursions into new fields. With regard to mining ventures, it is said that there are ten failures to one success. I do not vouch for the accuracy of this dictum, but no doubt there is a good deal of truth in it.

AN issue of £100,000 4¼ per cent. debenture stock at par has recently been made by the North British Rubber Co., Limited (Edinburgh). The London *Economist*, in referring to this, states that the assets (no good will included) are valued at £543,439. The average profits of the last three years were £67,273 and for the last seven years £58,593, from which figures the *Economist* considers that the issue is very well secured.

NEW CAPITAL ISSUE.

PRICES OF RUBBER FOOTWEAR.

AT the last business meeting of the Northwestern Shoe and Leather Association, at St. Paul, on the evening of October 10—which was preceded by an enjoyable dinner—a discussion of the "Prices of Rubber Footwear" was participated in by all present. Mr. Albert Fischer, president of the St. Paul Rubber Co. [according to the *Northwestern Shoe and Leather Journal*], expressed the opinion that there never was a better opportunity than now for retailers to secure good prices for rubber footwear. While the prices of rubbers are quite high, the consuming public have become well educated to the fact that crude rubber prices are higher than in the past, and they expect to pay more for rubber footwear; consequently, retailers can get good prices and they should do so. All the members present agreed on this subject, and after considerable discussion and comparison of prices charged by retailers for the same styles and grades of rubbers, it was found that there were only very slight differences in the prices charged.

Some of the city retailers contended that stores in different localities in the same city could not charge the same for the same classes of rubber footwear, as the class of customers in different localities vary, and the expense of keeping up their respective stores also vary. Consequently, some stores could sell the same style and grade of rubbers a few cents cheaper than others whose expenses were higher, and still make the same percentage of profit. It was finally agreed, however, that the stores could and should charge practically the same price for the same style and grade of rubbers, and that a fair profit should be made on rubbers as well as on leather footwear, notwithstanding the fact, that heretofore there has been a sort of unwritten law among shoe retailers that rubber footwear should be sold at a low margin of profit, something like a grocer handling sugar, merely an accommodation to his customers and not because of the profit made on sugar.

SOME RUBBER INTERESTS IN EUROPE.

REPORT OF THE HARBURG-VIENNA COMPANY.

THE report of the Actiengesellschaft Vereinigte Gummiwaaren-Fabriken Harburg-Wien, presented at the recent general meeting at Harburg a/d Elbe, Germany, related to the thirty-second business year of the company, ending June 30, 1904. The report, after presenting statistics of the world's production and consumption of crude rubber, proceeds to say:

The figures given above show that the consumption is continually increasing, and that lower prices can only be counted on should the supply very materially increase. It is highly satisfactory to learn from our colonies, and especially from Kamerun, that the planting of Caoutchouc trees is being encouraged, and that measures are being taken to decrease the destruction of the trees for the sake of increased profits. In the countries of origin from which we have hitherto received our supplies everything possible is being done to increase the production by increasing the facilities for gathering and by improving the roads, so as to facilitate transportation from the forests to the central depots. We hope these efforts may tend to increase the supply during the next few years.

The considerable increase in the cost of crude rubber and of other materials used in our manufactures, amounting to about 2,000,000 marks [= \$476,000], has naturally resulted in decreasing the percentage of our profits in comparison with that of the last two years, while we have, moreover, been compelled to adapt our selling prices to those of our competitors, in order not to lose our customers. We are, however, strongly convinced that the results shown during the last two years will be even more strongly accentuated during the current year, which, taken in conjunction with the downfall of Austrian and German rubber works, will finally cause those interested in rubber industries to open their eyes and give attention to the disaster that must surely follow if selling at a loss is continued much longer. We are likewise convinced that the time is coming when the attempts to bring all the manufacturers under a mutual understanding, but which have hitherto been unsuccessful, will at last take definite shape.

All our works are well supplied with orders, and we hope to be gradually able to fix our selling prices in accordance with prevailing conditions.

The gross profits of the goods account amount to M 2,729,948.29 [= \$649,727.69], against M 3,374,100.67 of the preceding year, and M 4,015,875.07 in the year 1901-02. The net profit for the last business year amounted to M 830,301.45 [= \$197,611.75], against M 1,460,070.45 last year, and was disposed of as follows:

| | |
|--|--------------|
| Net Profit for the year..... | M 830,301.45 |
| Dividend 5 per cent. on the entire Capital..... | 300,000.00 |
| | M 530,301.45 |
| Less 10 per cent. Commission to the Directors..... | 53,030.15 |
| | M 477,271.30 |
| Add Balance from profits of 1902-03 | 204,207.06 |
| | M 681,478.36 |
| Dividend 7½ per cent. on the entire Capital..... | 450,000.00 |
| | M 231,478.36 |
| Less Officers' Pension Funds | 50,000.00 |
| Balance to 1904-05..... | M 181,207.06 |

The capital of the company remains at M 6,000,000 [= \$1,428,000], and the reserves at the former large figures.

In relation to a new material in which the company have taken a lively interest the Harburg-Wien report says:

Galalith.—We have, since the commencement of the current year, been engaged in regular manufacture in our newly erected plant. Sales are already showing a substantial increase, which makes us confidently

hope for a future favorable development of this branch. It is to be regretted that we cannot obtain the raw material in our country as cheaply as from foreign countries, and we are therefore forced to import our supply. It is also to be regretted that the new tariff requires a duty of 10 marks to be paid per 100 kilos of the raw material [= \$23.80 per ton], and we fear we shall severely suffer thereby as soon as the patents shall have run out and when the Galalith manufactured in foreign countries shall commence to be imported into Germany, since the new tariff calls for a duty of only 3 marks per 100 kilos [= \$7.14 per ton] on Galalith plates. If we are not successful in having this abnormal rate set aside, we shall be compelled to remove our works to some foreign country.

RUBBER GOODS AT THE NIJNI-NOVGOROD FAIR.

RUBBER goods are offered in increasing quantities at the annual fairs (the largest in the world) held at Nijni-Novgorod, the capital of the government of the same name, situated at the junction of the Oka and Volga rivers, in central Russia. This fair is attended sometimes by from 200,000 to 300,000 merchants, from Russia and western and central Asia, and has become an important distributing point for manufactured goods of many kinds. A note in the *Gummi-Zeitung* mentions that at the last fair, held in August and September, the rubber goods shown were of the value of more than 2,500,000 rubels [= \$1,287,500]. The goods included mechanical and surgical articles, boots and shoes, and waterproof clothing, and met a ready sale. The quotations for footwear, owing to the advanced cost of raw rubber, had been advanced at the fair at Moscow, held previously, by 12½ per cent., and these prices were in effect at Nijni-Novgorod. Shoes are sold at list prices with a discount of from 31 to 40 per cent., and the other goods at discounts at from 20 to 25 per cent. The principal purchases of rubber goods of all kinds were for western Siberia, the regions of the Volga and Kama, and Caucasia. Rubber goods are mentioned as having been in good demand at Moscow before the fair, occasioned by large purchases for army purposes.

THE GRAMMONT FACTORIES, IN FRANCE.

THE exhibit in the Electricity building, at the St. Louis Exposition, of the long established French house, *Établissements Industriels E. C. Grammont*—A. Grammont, Successeur, has been mentioned briefly in THE INDIA RUBBER WORLD heretofore. In 1852 the late E. C. Grammont began at Pont-de-Chéruy the manufacture of steel wires, for small industrial uses, to which he later added copper working, so that he was prepared, at the first inception of the modern development of the electrical industries, to take on the production of wires and cables for use in the new field. In 1891 the house manufactured and laid down for the government a cable of 510 nautical miles, between Marseilles and Algiers, this being the first French made submarine cable. Since that time a number of other contracts of importance have been executed, or are in progress, including the Mozambique-Majunga cable (in 1895), of 372 nautical miles. The construction of electrical machines was taken on in time, and contracting for electric installations, including street railways and lighting plants in a number of French cities. In addition to various articles of hard and soft rubber incidental to their electrical work, the house of Grammont now manufacture pneumatic tires and general rubber goods, of which specimens were shown at St. Louis. The original works at Pont-de-Chéruy are still maintained, together with works at Plaine-Chavanoz, for electric plant, and

at Saint-Tropez, for armoring submarine cables, the whole business being now owned and managed by Monsieur Alexandre Grammont. The highest awards have been made to the house at expositions at Lyons, Brussels, and Paris.

AUTOMOBILE SHOWS IN GERMANY AND FRANCE.

THE rubber exhibits at the international automobile exhibition held at Leipzig, October 15-23, were representative of some of the leading manufacturers in Europe and were extensive and attractive in appearance. While devoted principally to tires, some of them included also the various other articles of rubber equipment for automobiles, motor cycles, and even bicycles—for cycling is by no means a lost art in Germany. Among the exhibitors were the following:

Germany.—Continental Caoutchouc- und Guttapercha-Compagnie, Hannover; B. Polack, Walterhausen; Gummiwerke Oberspree, Oberschöneweide; Lina Pneumatic Compagnie, Berlin; Carl Stöckicht, Frankfurt a/M.

France.—Michelin et Cie., Clermont-Ferrand; Etablissement Hutchinson—from the German branch at Mannheim.

Great Britain.—North British Rubber Co., Limited, Edinburgh.

An international automobile exposition will be held in Berlin February 4-19, under the presidency of the Duke of Ratibor and the joint control and management of the German Automobile Club of Berlin and the Association of German Motor Vehicle Manufacturers at Cannstatt. These two organizations, comprise and represent, respectively, the varied interests of Germany in the use and manufacture of motor vehicles for purposes of sport, travel, and transportation. No doubt the leading European tire manufacturers will be well represented at the Berlin show.

The seventh annual Exposition Internationale de l'Automobile in Paris, under the auspices of l'Automobile Club de France, will be opened in the Grand Palais on December 9 and be continued for 15 days. Exhibits will be comprised in 15 classes, of which Class V will be devoted to tires for automobiles and other vehicles, including bicycles and motorcycles.

GRAND PRIZE FOR THE LAND AND SEA CABLE CO.

THE Land- und Seekabelwerke Aktiengesellschaft (Cöln-Nippes, Germany) write to THE INDIA RUBBER WORLD that a gold medal was awarded, at the St. Louis Exposition, for their display of insulated wires and telegraph and telephone cables. They had previously received high awards at Berlin (1901), Düsseldorf (1902), and Dresden (1903).

NEW ENGLISH COMPANIES.

REILLOC Tyre Co., Limited, registered in London October 6, 1904; capital £10,000, in £1 shares; to adopt an agreement between A. T. Collier, Bertram & Egerton, Limited, and E. Dyke, to hold and exploit certain patents and properties referred to in said agreement, and to carry on a business not particularly described except in the title. Registered office: 123, Victoria street, S. W., London.

=Empire Rubber Co., Limited, registered in London October 19, 1904; £10,000; to acquire the business of manufacturing rubber heels carried on by J. B. Whitley and T. Brayshaw at 45, Grand arcade, Leeds (which is the registered office of the new company). No initial public issue.

GREAT BRITAIN.

THE India-Rubber, Gutta-Percha, and Telegraph Works Co., Limited, now that the patents controlled by the Dunlop company have expired, are putting on the market beaded-edge and wired-on tires, under the name "Silverstown."

=The London depot of the United States Rubber Co. has opened a department devoted to rubber coats, with a view es-

pecially to the requirements of sportsmen and outdoor workers. The company are reported to be doing a large business in rubber footwear, of which they carry usually about 500,000 pairs.

=The "Harbro" Rubber Co., large manufacturers, at Market Harborough, of rubber heel pads, are mentioned as having secured a patent for pneumatic tires, which they will proceed to manufacture. They have also been booking orders for railway buffers, which indicates that they intend a general expansion of business.

=A block of Pará, weighing half a cwt., said to be "the first piece ever imported into Ireland," has been on show in a Belfast boot shop in connection with rubber heels. Does this foretell the establishment of a rubber factory in the Green Isle?—*The India-Rubber Journal*.

=The death is announced of Mr. Robert Kerr, a director and large shareholder in F. Reddaway & Co., Limited, rubber manufacturers of Pendleton, Manchester. He was formerly senior partner of Kerr & Jubb, dealers in mill supplies and rubber goods, at Halifax, England, which business in time was merged into that of Messrs. Reddaway.

=The directors of New Pegamoid, Limited, propose a dividend at the rate of 8 per cent. for the year ended September 30, 1904—the same rate as paid last year.

GERMANY.

THE Hannoversche Aktien-Gummiwaren-Fabrik (Hannover and Solin-München) have transferred their manufacture of *patent gummi* (cut sheet) goods, and nipples and other seamless goods, to the Bayerische Gummiwaren-Fabrik München G. m. b. H. This firm, as well as the latter, transacts business with dealers only.

=The death is reported, at Altona-Ottensen, of Herr Richard Arndt, for many years connected with the sales department of Loewitz & Rohlf, manufacturers of Balata belting and Rubber goods. The deceased, who was taken away in the prime of manhood, was widely loved and respected, in token of which his funeral was largely attended and many beautiful floral tributes sent.

=The firm of Julius Roller, rubber goods manufacturer at Metz, received at the international exposition for hotel and restaurant supplies a gold medal and a prize of honor, which latter was offered by the officers of the Royal Bavarian Fourth Infantry regiment. A diploma of honor was awarded to the manager of the firm, Herr Tillian.

=Herr C. L. Strack, who has been connected with the Mannheimer Gummi, Guttapercha, und Asbest-Fabrik since November, 1878, and their Berlin representative for 12 years, celebrated lately his 23 year jubilee.

RUSSIA.

THE share capital of the Russian-American India-Rubber Co. (St. Petersburg) has been increased from 6,000,000 rubels to 6,500,000 rubels [= \$3,347,500].

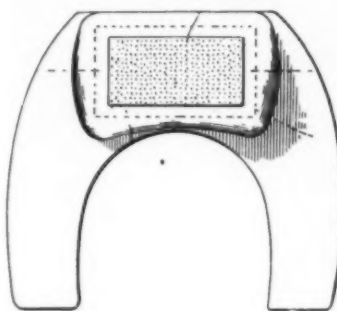
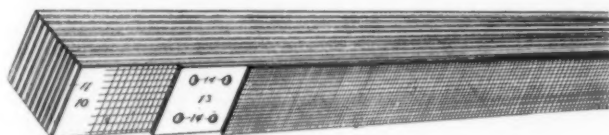
MANUFACTURE OF RUBBER FOOTWEAR IN BELGIUM.

As has been mentioned already in these pages, the Socié anonyme Belge pour le Commerce et l'Industrie du Caoutchouc is about to undertake the manufacture of India-rubber footwear in its factories at Alost. It is at present engaged in installing in its new buildings the special material quite recently purchased in Germany, and they hope to be able to have their goods on the market by the end of December. As the consumption of India rubber footwear in Belgium would not be sufficient to keep the factories going, the company proposes more especially to do business for exportation, and orders have already been received, principally from Asia, which promises to be a very large field.

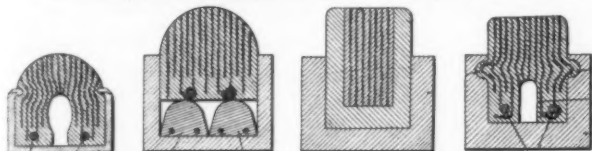
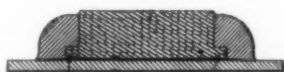
NEW GOODS AND SPECIALTIES IN RUBBER.

"WOVEN WIRE RUBBER."

THE practice of building up plies of fabric and rubber for wearing surfaces is by no means new, nor is the cutting of frictional cloth on the bias novel, but the application of those principles to woven wire in connection with rubber is new, and is the subject of a number of patents owned



by the Woven Wire Rubber Co. (No. 10 Grand circle, New York). The first application of their principle, that is practically, was in the manufacture of horseshoes of various forms, a pad or channel filler being made of a block of woven wire rubber. This form of rubber is made up of alternate layers of rubber and wire fabric pressed and vulcanized together, the wire fabric being laid upon the bias. The block is then cut in-



to strips or blocks to fit the desired recess, and forced into place, lying so that the ends of the wire threads are the wearing surface. In conjunction with light aluminum shoes a very neat, light, and durable horseshoe is produced, and one in which, so it is said, there is not the slightest danger of slipping. The same stock has been applied to the treads of automobile tires with decided success, and with the further advantage that the strip is puncture proof to a degree. The first of the cuts herewith relates to composite blocks of wire and rubber, applicable to different uses—for instance, for the treads of horseshoes. The second illustration represents the construction of a horseshoe. The third illustration relates to sections of vehicle tires, of different types of construction, involving the use of "woven wire rubber."

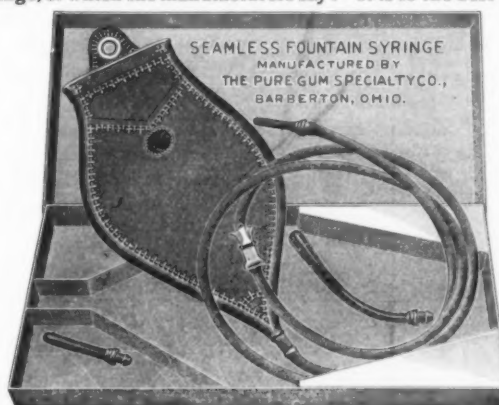
A NEW IDEA IN RUBBER BELTING.

THE manufacturers of stitched cotton belting of late seem to have made considerable progress in the introduction of this class of belting into factories where previously rubber belting was used exclusively. The cost of the cotton as against the rubber belt was apparently the main consideration that induced some manufacturers to make such a radical change in the class

of belt used. To meet the competition of the stitched cotton belting, the Canadian Rubber Co. of Montreal have introduced a rubber belt, with certain peculiarities, which can be produced at a materially lower cost than the old method of manufacturing rubber belting. The cheapening of the cost of production, while assuring a rubber belt of high grade, seems to have been successfully accomplished by the above named company, who have applied for patents in both Canada and the United States. This new type of rubber belting is designed to meet the requirements of the threshing and lumbering interests of the Dominion, and inquiries are being received from all parts of Canada for detailed information regarding the special features of the new belt.

A MOLDED FOUNTAIN SYRINGE.

THE illustration herewith relates to a molded fountain syringe, of which the manufacturers say: "It is to the best of our



knowledge the first of its kind ever introduced to the trade. There are some dipped seamless bags on the market, but any one understanding the wearing qualities of the molded article will readily see the advantages of the molded fountain syringe bag." Patents have been applied for on this new article. [The Pure Gum Specialty Co., Barberton, Ohio.]

AUTOMOBILE FABRIC SUPPLIES.

A VERY considerable business has been established by a certain company in manufacturing a special line of articles for use



by automobilists, in connection with which more or less rubber is used, and which in any event merit mention here by reason of their relation to the rubber tire trade. The first which will be noted is the Gilbert Tire Case, designed to protect from water or dust the extra tire carried as a measure of precaution on an automobile. Not only is a tire carried without covering, or one wrapped in burlap, unsightly, but the tire is liable to deterioration from exposure. The tire case here illustrated is made of strong black enameled duck, and is held in position by lacing through eyelets.

Waterproof bags for tire inner tubes are also supplied.—The same firm are marketing rainproof Rubber Cloth Covers, which are a practical article for the protection for automobiles in certain situations. These have been made in varying sizes up to 150 inches wide by 260 inches long. [The Gilbert Manufacturing Co., New Haven, Connecticut.]

THE GOODRICH WIRE WRAP.

THIS type of wire, for armoring rubber hose, was originated for the purpose of overcoming certain unsatisfactory features of other wires in use, and is the subject of United States patent No. 726,730. It is designed to add to the life of hose which is subjected to hard usage and liable to be dragged over rough places. It is made with a fin projection on the underside of the wire, which, while giving a firm grip, does not cut or otherwise injure the hose. This prevents the wire from slipping, and holds it in place. The wire can be supplied flat or round, as desired. [The B. F. Goodrich Co., Akron, Ohio.]



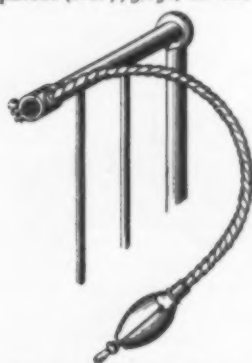
"DIAMOND" SOFT COVER BATTERY JAR.

THE patented battery jar illustrated herewith is designed especially for automobiles, electric railways, and electric lighting plants. It is constructed with an $\frac{1}{8}$ inch wall— $\frac{1}{8}$ of an inch hard rubber, and over this $\frac{1}{8}$ of an inch soft rubber—with a view to easing any shock the jar may receive in handling or otherwise, and keeping the jar whole, even if the hard rubber should become cracked. [The Diamond Rubber Co., Akron, Ohio.]



NOVEL NURSING APPLIANCE.

ALICE FRANK of New York has obtained a United States patent (No. 773,252) on the device illustrated herewith, which



embraces a nursing bottle holder, with means of attaching the same to a bedstead, chair arm, or the like; also means for retaining heat in the food holder for an indefinite period. The bottle holder consists of two hinged and spring actuated shells, provided with a non conducting lining, and a holder for supporting the shells in position. The patent further relates to a flexible arm attached to the holder, and a clamping device attached to the opposite end of the arm. Instead of an infant's feeding bottle, a suitable liquid or solid food receptacle may be substituted, and the form of the shells modified in order to support the same.

ST. JOHN NON PUNCTURABLE AUTOMOBILE TIRE.

IN the tire illustrated herewith a cushioning, or resilient, effect, is secured by piercing a series of round holes sidewise



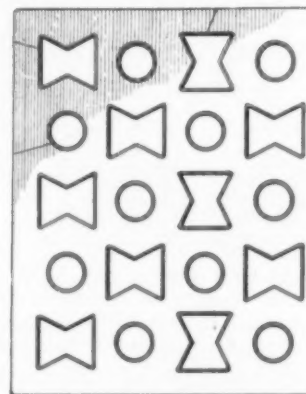
through the rubber, between the planes of the tread and the rim. It may be described otherwise as having a tread surface and a rim surface, each continuous, and having between them a number of rubber cushions, at equal distances apart,

the openings between the cushions affording the resilient effect. The tire is referred to as being designed to eliminate all trouble from punctures, rim cutting, leaky valves, and the like, and the necessity of inflating. The tire is made in one piece, and fastened to the wheel by a series of bolts. It is made to fit any ordinary rim. The invention is covered by a United States patent granted recently to H. N. St. John. [St. John Rubber Co., No. 116 Broad street, New York.]

A NOVELTY IN RUBBER MATS.

THE illustration relates to a mat which comprises an elastic body having pockets therein, and metallic liners of said pockets having

scraping edges designed for effectively removing dirt from the shoes, besides which destructive straining of the elastic body due to compression is avoided because the liners relieve the elastic body of severe strain. By extending the openings entirely through the body the mat is reversible, and either the bottom or top surfaces can be used, and upon removal of the mat the dirt can be removed. But in case it should be desirable to retain the dirt in the mat so that the dirt and mat can be removed together, a bottom of fabric may be secured to the under surface of the elastic body. At the left of the cut are shown illustrations of two forms of the metallic liners, though the invention is not confined specifically to these forms. United States patent No. 771,809, issued October 11, 1904, to Arthur S. Burnell. [Queen Manufacturing Co., Marshalltown, Iowa.]



RUSSIA.—Rubber belting or bands are included in the list of articles, to be used in gold mining in Siberia and the Ural, which may be admitted duty free over all Russian frontiers, until December 31, 1908.

RECENT RUBBER PATENTS.

UNITED STATES OF AMERICA.

ISSUED OCTOBER 11, 1904.

- N**O. 771,809. Mat. [The combination of an elastic body having a plurality of pockets therein, and metallic liners held in said pockets and forming the pocket walls.] A. S. Burnell, assignor to Queen Manufacturing Co., both of Marshalltown, Iowa.
- 771,947. Vehicle tire. [Solid rubber, with "Clincher" rim.] J. A. Swinehart, Akron, Ohio.
- 772,026. Rubber soled [leather] shoe and welt therefor. G. F. Butterfield, Framingham, assignor to G. I. Butterfield, Boston, Mass.
- 772,027. Rubber soled leather boot or shoe. *Same*.
- 772,050. Horseshoe [consisting of an elastic tread section and a metal frame]. F. D. Palmer, Poughkeepsie, and A. H. Isham, New York city; said Isham assignor to said Palmer.
- 772,068. Machine for setting rubber tires. J. M. Sweet, assignor to The Sweet Tire and Rubber Co., both of Batavia, N. Y.
- 772,069. Metal securing-rim for elastic wheel tires. *Same*.
- 772,080. Cushioned rubber tire for vehicles. R. Bell, Glenae, Scotland.
- 772,111. Holder for ink or pencil erasers. J. L. Nicholson and E. A. Hemphill, Jersey City, N. J.
- 772,161. Spindle for forming rubber nipples. C. E. Longden, Hamden, Conn., assignor to The Falcon-Rubber Co.
- 772,204. Fountain pen. F. W. Bender, Hoboken, N. J.
- 772,209. Wheel rim [for elastic tires of vehicles]. R. S. Bryant, Columbus, Ohio.

Trade Marks.

- 43,465. Rubber gloves. The Buffalo Rubber Manufacturing Co., Buffalo, N. Y. *Essential feature*.—The capital letter B inclosed in a scroll-shaped figure. Used since Nov., 1903.
- 43,520. Rubber belting. Jewell Belting Co., Hartford, Conn. *Essential feature*.—The word GEM. Used since January 1, 1904.

ISSUED OCTOBER 18, 1904.

- 772,467. Self-filling fountain pen. R. G. Lockwood, Boston.
- 772,554. Fountain pen. J. H. Bullard, Springfield, Mass.
- 772,585. Belt coupling. T. F. Smithson, Whiteford, Md.
- 772,609. Tire [comprising an outer yielding casing, a retaining band for holding the tire to a wheel rim, and a chain of longitudinally-extending imperforate spring-loops lying in a single plane within the casing]. M. G. DeHart, Cincinnati, Ohio, assignor of one half to J. L. Gregory, Washington, D. C.
- 772,636. Vehicle tire. [Solid rubber.] J. A. Swinehart, Akron, Ohio.
- 772,651. Vehicle or other wheel [with solid rubber tire and a special rim]. S. T. Felmier, assignor of three eighths to F. H. Wood, both of Chicago.
- 772,663. Wheel [with pneumatic tire]. H. March, London, England, assignor to H. S. Geary, New York city.
- 772,685. Cushion for horseshoes. F. Symons, Burwood, near Sydney, N. S. W., Australia.
- 772,758. Double tube tire. F. F. Thompson, Lawton, Okla.
- 772,763. Shampooing hood. W. J. H. Walters, Syracuse, N. Y.
- 772,818. Vehicle tire [comprising strips of wire cloth, cut on the bias, or of wire cloth and rubber, the interstices thereof filled with cohesive substance and the whole formed and curved with the strand of wire cloth tangent to the art of curvature]. C. Olson, Des Moines, Iowa, assignor, by mesne assignments, to Woven Wire Rubber Co., New York.
- 772,910. Nozzle for hose. H. E. McKechney, Rochester, N. Y.

Trade Marks.

- 43,543. Rubber hose. The Mechanical Rubber Co., Cleveland, Ohio. *Essential feature*.—The word PALLADIUM. Used since July 1, 1904.
- 43,544. Rubber hose. New York Belting and Packing Co., Limited. *Essential feature*.—The representation of a scroll consisting of a double outline figure of the letter S reversed. Used since Jan. 1, 1904.

ISSUED OCTOBER 25, 1904.

- 772,930. Vehicle wheel [with rubber tire]. B. Gastal, Pelotas, Brazil.
- 772,975. Hose coupling. L. Stuefee, Cincinnati, Ohio.
- 772,991. Fire hose protector for [street railway] tracks. F. W. Wittkowski, Des Moines, Iowa.

- 773,216. Pneumatic tire. M. M. Mills, New York city.
- 773,234. Vibratile apparatus. [For massage treatment; described in THE INDIA RUBBER WORLD, May 1, 1904—page 279.] L. Snyder, Rochelle Park, N. J., assignor to The Lambert Snyder Co., New York city.

- 773,252. Nursing appliance. [For holding an infant's bottle; illustrated on another page.] Alice Frank, New York city.
- 773,371. Fountain pen. Frances C. Brown, New York city.

ISSUED NOVEMBER 1, 1904.

- 773,588. Pneumatic tire. C. H. Pierce, Alma, Calif.
- 773,633. Solid elastic tires with fastening-strips. H. G. Fiske, assignor, by mesne assignments, to Morton Trust Co., trustee, both of New York city.
- 773,771. Vehicle wheel [adapted to use with a pneumatic tire of the Clincher type]. H. W. Adams, Jr., Chicago, assignor to Scovill Manufacturing Co., Waterbury, Conn.
- 773,825. Universal hose coupling. J. F. Thomas, Ilion, N. Y.
- 773,847. Fountain pen. J. Blair, Brooklyn, N. Y.
- 773,942. Slip-preventing device for rubber tired wheels. M. J. Kelly, Springfield, Mass.
- 773,965. Hose binder. J. J. McIntyre and H. Bagshaw, Hartford, Conn.
- 773,971. Fire extinguishing apparatus [for the interior equipment of buildings]. C. Nuhring, Cincinnati, and W. M. Thompson, Norwood, Ohio.
- 774,113. Storm shield for vehicles. J. J. Russell, Jr., Deepwater, Mo.

Trade Marks.

- 43,624. Rubber hose. Jewel Belting Co., Hartford, Conn. *Essential feature*.—The word GEM. Used since Jan. 1, 1904.
- 43,639. Asbestos and rubber packing. O. Säyen, Philadelphia. *Essential feature*.—The word TORPEDO. Used since Sept. 15, 1904.

ISSUED NOVEMBER 8, 1904.

- 774,196. Hose coupling. A. W. Nunn, Rochester, N. Y.
- 774,282. Ear phone. [With flexible diaphragm.] D. E. Smith, assignor to Invisible Ear Phone and Medical Co., both of New York city.
- 774,305. Hose drier. C. M. Bowman, assignor to The Rotary Fire Hose Drier Co., both of Lebanon, Pa. [Described in THE INDIA RUBBER WORLD, July 1, 1904—page 541.]
- 774,315. Wheel. [With pneumatic tire, having a metallic covering.] F. J. Fagot, Lowpoint, Ill.
- 774,386. Vaginal syringe. E. E. Hall, Chicago.
- 774,411. Vehicle wheel [with pneumatic tire]. H. W. Adams, Jr., Chicago, Ill., assignor to Scovill Manufacturing Co., Waterbury, Conn.
- 774,446. Device to prevent snoring. S. A. Moulton, Campbell, Calif.
- 774,553. Brush. S. R. Boon, Chicago.
- 774,558. Moistener for gummed surfaces. J. D. Browne, assignor of one half to G. W. Losh, both of Madisonville, Ohio.
- 774,633. Coupling for gas hose. H. Ackermann, Newark, N. J.
- 774,675. Hand stamp. H. M. Kendrick, assignor to Lamb & Tilden, both of Washington, D. C.
- 774,727. Process of reclaiming and regenerating rubber. L. T. Petersen, assignor to himself and J. F. McQuire, both of Akron, Ohio.

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each, postpaid.]

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1903.

* Denotes Patents for American Inventions.

[ABSTRACTED IN THE OFFICIAL JOURNAL, OCTOBER 5, 1904.]

- * 12,929 (1903). Inflatable whistling toy. W. M. Moseley, Elgin, Illinois.
- * 12,948 (1903). Inflatable bag for abdominal massage. J. H. Powers, Providence, Rhode Island.
- 12,995 (1903). Rubber tubing for drawing beer. S. M. Lund, Bradford.
- 13,037 (1903). Elastic tire, having a spring supported rubber cover. A. Sandwith, London.
- * 13,104 (1903). Solid vehicle tire, with means for securing it in a rim. R. M. Connable, Baltimore, Maryland.

- *13,105 (1903). Solid vehicle tire, secured by tie wires. *Same*.
 *13,277 (1903). Golf ball [consisting of a core of cork, covered by a thickness of rubber made in two parts and cemented together, and the whole enclosed in a Gutta-percha cover]. R. Raffety, London.
 *13,306 (1903). India rubber substitute [formed of castor and other oils, nitrated as described in patent No. 21,995 (1895), and heated in contact with air at 130° C.]. G. C. Marks, London. (J. Muir and C. H. Herod, Brantford, Ontario.)
 *13,358 (1903). Golf ball. [Gutta-percha shell filled with a composition of rubber solution, feathers, and zinc oxide, with rubber sufficient for vulcanization.] C. T. Thompson, Philadelphia.
 *13,393 (1903). Vehicle tire. [Solid, circular section; supported on a lacing of leather strips threaded through the sides of the rim channel.] G. R. G. Rowe, London.

[ABSTRACTED IN THE OFFICIAL JOURNAL, OCTOBER 19, 1904.]

- *13,431 (1903). Vehicle tire [formed by squirting a tubular leaden mold and filling it with rubber, vulcanization being effected by immersing the mold and rubber article in an oil bath]. Christian H. Gray, Silvertown.
 *13,451 (1903). Fountain pen. J. Blair, New York.
 *13,729 (1903). Dental sheets [formed by placing nickel wire gauze between layers of vulcanite, the whole being united by pressure between hot rollers]. C. E. Foster, Brighton, and Dental Manufacturing Co., London.
 *13,824 (1903). Pneumatic wheel [having a rubber tube between the body of the wheel and a steel tire.] O. Siebers, Dresden, Germany.
 *13,926 (1903). Manufacture of seamless rubber gloves and like articles. C. A. Lindsay, New York.
 *13,932 (1903). Appliance for removing rubber tires from wheels. S. Nicholson and W. H. Paterson, Gore, New Zealand.

[ABSTRACTED IN THE OFFICIAL JOURNAL, OCTOBER 19, 1904.]

- 14,011 (1903). India-rubber substitute. C. E. Pensa, Paris, France.
 14,029 (1903). Vehicle tire. [A zig-zag rib is formed on the treads of solid, cushion, or pneumatic tires, to prevent side slipping; the transverse parts of tires for heavy vehicles are thickened.] C. H. Gray, Silvertown, and T. Sloper, Wiltshire.



- 14,232 (1903). Hood for firemen, motormen, and the like. F. E. Jackson, Manchester.
 14,314 (1903). Syringe. [For medicinal uses, or for injecting disinfectants.] G. W. Robertson, Brondesbury, Middlesex.
 14,408 (1903). Boot heel. C. D. Morrall, Urmston, and A. Clowes, Blackpool.
 *14,463 (1903). Disconnectable hose coupling for railway cars. E. E. Gold, New York.
 *14,572 (1903). Pneumatic tire [with specially formed woven fabric]. F. D. Thropp and A. de Laski, Trenton, New Jersey.

[ABSTRACTED IN THE OFFICIAL JOURNAL, OCTOBER 26, 1904.]

- *14,764 (1903). Golf ball. [Rubber wound, with core of Gutta-percha, metal, hard rubber, or clay.] K. V. Painter, Cleveland, Ohio.
 *14,773 (1903). Hypodermic injector. O. A. Elias, London. (W. Warren, Detroit, Michigan.)
 14,914 (1903). Repair patch for pneumatic tires. A. E. Terry, Redditch, Worcestershire.
 *14,947 (1903). Device for molding, vulcanizing, and finishing boots and shoes made of rubber or the like. Henry J. Doughty, Providence, Rhode Island.
 *14,948 (1903). Device for molding, vulcanizing, and finishing boots and shoes made of rubber or the like. *Same*.

[The last two patents mentioned relate to the machines for making rubber shoes for which patents were issued to Mr. Doughty in the United States, March 17, 1903.]

PATENTS APPLIED FOR—1904.

- Space is given here only to Applications for Patents on Inventions from the United States.
 20,951. Philip W. Pratt, London. Improvement in elastic treads. Sept. 29.

GERMAN EMPIRE.

PATENTS GRANTED.

- 156,562 (Class 15c). Rubber covered pantagraph. C. Mierisch, Leipzig. Oct. 12.

- 156,592 (Cl. 63c). Elastic tire. R. S. Graham, New York, and W. M. Perkins, Brooklyn, United States. Oct. 12.

DESIGN PATENTS GRANTED [GEBRAUCHSMUSTER].

- 233,011 (Class 30f). Elastic massage hammer, with hollow rubber ball at either end of head. G. Dittmar, Washington, United States. Sept. 21.
 233,381 (Cl. 71d). Rubber lift for boot heels. J. Baer, Diebenhofen. Sept. 28.
 233,553 (Cl. 47d). Rubber, Gutta-percha, or Balata belt, with inserted metallic chains. E. Kniepert, Lobau. Sept. 28.
 233,803 (Cl. 15i). Copying sheet of cotton stuff covered with rubber. R. Hartmann, Chemnitz. Oct. 5.
 234,119 (Cl. 70d). Penholder with rubber bolts for securing the pen. J. W. Seifert, Beerfelden. Oct. 5.
 233,890 (Cl. 71d). Elastic and pneumatic heel. J. Schmidt, Paris, France. Oct. 5.
 234,680 (Cl. 9). Shaving brush with rubber handle. Frau Jean Schramm, Nürnberg. Oct. 12.
 234,739 (Cl. 30d). Elastic stocking. Frau Albin Beendorf, Zeulenroda. Oct. 12.
 234,330 (Cl. 30d). Clyster tube, convertible into a vaginal syringe by pushing a cap over it. Hannoversche Gummi Kamm Co., A.-G., Hannover-Limmer. Oct. 12.
 234,331 (Cl. 30d). Clyster tube, convertible into a vaginal syringe by screwing a cap over it. *Same*. Oct. 12.
 233,994 (Cl. 71d). Sole protector. A. Sander, Harnburg. Oct. 12.
 235,089 (Cl. 30d). Elastic girdle of one piece of knit material with in-laid overspun rubber threads. W. J. Teufel, Stuttgart. Oct. 19.
 235,130. (Cl. 45). Horseshoe with rubber pad. R. Sievers, Westdorf. Oct. 19.

APPLICATIONS.

- 8,657 (Class 63c). Elastic tire. A. von der Stichelen, Ghent, Belgium. Sept. 28.
 12,486 (Cl. 63c). Tire with air chambers lying one within another. A. Chambole, Bordeaux, France, Oct. 19.

THE FRENCH REPUBLIC.

PATENTS ISSUED (WITH DATES OF APPLICATION).

- 342,817 (May 3). R. H. Croninger. Vehicle tire.
 342,844 (April 7). C. Motz. Vehicle tire.
 342,876 (May 5). P. Eichmann. Mold for outer covers of pneumatic tires.
 342,925 (May 6). Société Dollfus & Noack. Continuous circular ribs for pneumatic tires.
 343,021 (May 13). E. Carrau. Tire, with puncture preventing cloth insertion.
 343,224 (May 19). J. Renard. Device for use in the manufacture of grooved, rubber covered wooden flanges, for mounting tires.
 343,324 (May 24). Depoix. Puncture preventing compound for pneumatic tires.
 343,478 (March 7). L. P. C. Salavy. Non burstable pneumatic tire.
 343,483 (March 30). A. J. Durupt. Puncture covering composition for pneumatic tires.
 343,501 (May 27). C. W. Maxon. Pneumatic tire.
 343,537 (May 30). E. Montecuccoli. Vehicle tire.
 343,636 (June 1). L. A. Laniel. Pneumatic tire with protected outer cover and resistant flanges.
 343,657 (June 2). A. Couturier. Cover for pneumatic tires.
 343,768 (June 7). J. P. Legrand. Interior support for the air chamber of tires.
 343,769 (June 7). G. F. Butterfield. Rubber soles for attachment to leather shoes.
 343,847 (June 10). E. Midgley. Reinforced pneumatic tire cover.
 343,865 (June 10). E. Sachetti. Armored pneumatic tire.
 343,942 (June 13). L. Babert. Detachable anti skidding device for pneumatic tires.
 344,017 (June 16). Société Michelin et Cie. Protected felloe for automobile wheels.
 344,027 (June 16). A. Von Hasperg. Device for preventing the bursting of automobile tires.
 344,028 (June 16). A. Von Hasperg. Device for preventing the bursting of automobile tires.

[NOTE—Printed copies of specifications of French patents may be obtained from R. Babet, Ingenieur-Consell, 16 avenue de Villiers, Paris, at 50 cents each, post paid.]

RUBBER PLANTING AND EXPLOITATION.

EXTENT OF RUBBER PLANTING IN CEYLON.

A YEAR ago there was summarized in these pages a statistical showing, from that standard publication, the "Ceylon Handbook and Directory, 1903-04," of the extent of rubber planting in Ceylon. The total acreage then reported was 11,630, of which it was stated that more than half had been planted within two years. It was also stated that "more than half the acreage referred to represents the planting of rubber among tea." There is now at hand the issue of the "Ceylon Handbook" for 1904-05, from which it appears that the total planting of rubber has increased to 36,235 acres, of which no less than 10,034 acres are devoted to rubber alone, the remaining area representing tea and other estates interplanted with rubber, with the idea that the latter ultimately will form the only growth on the land.

No estimate can be given of the number of rubber plants now under cultivation. Last year the best information pointed to the existence of 3,500,000 to 4,000,000 trees on plantations. Assuming all the exclusively rubber fields to contain 200 trees to the acre—and this appears to be the minimum—we have upwards of 2,000,000 trees, to say nothing of the 26,201 acres on which rubber has been planted, at widely varying distances, among other crops. With three times the total acreage reported a year ago, it would seem a reasonable assumption that the number of trees has at least been doubled. The following details have been compiled from the last "Ceylon Handbook":

RUBBER PLANTING IN CEYLON, JUNE 30, 1904.

| DISTRICTS. | ACREAGE. | |
|--------------------------------|---------------|---------------------------------|
| | Rubber Alone. | Rubber Planted with Other Crops |
| Alagala | 71 | 219 Tea |
| Abagamuwa | 7 | 510 " |
| Dolosbage | 8 | 430 " |
| Dumbara | 74 | 623 " |
| Galagedara | 68 | 157 Cocoa |
| Galle & Udagama | 365 | 380 Tea a |
| Hantane | 12 | 163 " |
| Haputale | 70 | 157 Cocoa c |
| Kalutara | 2,705 | 4,204 Tea |
| Kegalla & Polgahawela | 159 | 1,766 " b |
| Kelani Valley | 1,709 | 8,440 " |
| Kurunegala | 313 | .... |
| Kuruwita | 204 | 1,005 Tea |
| Maskeliya | 7 | 637 " |
| Matale East & Laggala | 122 | 1,831 Tea, Cocoa |
| Matale North | 115 | 922 " |
| Matale South | 84 | 289 Tea |
| Matale West | 610 | 1,695 Tea, Cocoa |
| Monaragala | 332 | 361 " |
| Nilambe | 50 | 679 Tea |
| Passara | 31 | 404 " |
| Low Country Minor Districts .. | 2,700 | .... |
| All Other | 188 | 1,329 Tea, etc. |
| Total | 10,034 | 26,201 |

a In Galle district. b In Kegalla district. c In addition to 7400 Rubber trees not otherwise specified.

A comparison of the above table with one presented in these pages in November, 1903, shows an increase in the total acreage in rubber in Kalutara from 2357 to 6909; in the Kelani valley from 4100 to 10,149; in the Matale districts from 481 to 5868; and so on.—Last year *The Tropical Agriculturist*, which issues the "Ceylon Handbook," presented figures to indicate that the

planting of rubber in the Straits Settlements was little, if any less in extent than in Ceylon. From reports that have reached THE INDIA RUBBER WORLD from various sources meanwhile, there is reason to believe that the increase in rubber planting in the Straits during the year probably has been as great as in Ceylon.—A visitor to THE INDIA RUBBER WORLD offices as these lines are being written is of the opinion that at least 20,000,000 rubber plants are now under cultivation in Ceylon and the Straits Settlements (including the Federated Malay States).

MEXICAN MUTUAL PLANTERS CO.

[Plantation "La Junta," Sanborn postoffice, state of Vera Cruz, Mexico. Offices: 907 Journal building, Chicago, Illinois. See THE INDIA RUBBER WORLD, May 1, 1904—page 272.]

AN informal meeting of investors in this company, with an attendance of about 125, was held in Chicago on September 27, when Mr. James C. Harvey, the plantation manager, who happened to be in the city, addressed them on the progress made on the plantation to date, and gave a statement of the results hoped for, and of the reasons therefor, all of which is reported, to have been very satisfactory to his audience. Mr. Harvey had with him some specimens of rubber obtained by tapping 108 five year old rubber trees on his private plantation, near La Junta, and he supplied details regarding the yield per tree and estimated cost of production, according to which the yield of more mature trees ought to afford a satisfactory profit.

THE NORTH AMERICA RUBBER CULTURE CO.

[Plantation "Columbia," near Santa Lucrecia, canton of Juchitan, state of Oaxaca, Mexico. Office: New York Life building, Kansas City, Missouri.]

A RECENT bulletin issued to the investors in this company reported that the 270 acres of old planting of rubber (work was begun two years ago) made a good showing, and that 150 acres additional had been planted this year. The present plans relate to the planting of 120 acres next year and 180 acres each in 1906 and 1907. The organization of the company remains the same as stated in an article on its plans in THE INDIA RUBBER WORLD, August 1, 1901 (page 321).

TABASCO PLANTATION CO.

[Plantations in the states of Vera Cruz and Tabasco, Mexico. Offices: No. 918 Lumber Exchange, Minneapolis, Minnesota.]

THIS company has been named in THE INDIA RUBBER WORLD hitherto [April 1, 1903—page 325] in connection with its work in the development of the "San Miguel" rubber plantation, in Tabasco. The company has since acquired "La Oaxaqueña" plantation, in Vera Cruz—mentioned in THE INDIA RUBBER WORLD, July 1, 1900 (page 287) as being developed by La Oaxaqueña Plantation Co. For the present the energies of the company will be devoted to the further development of "La Oaxaqueña," under the management of Mr. George E. Davis, who has been identified with that estate from the beginning. The secretary of the company writes to THE INDIA RUBBER WORLD, referring to both estates:

We have planted about 800 acres of rubber trees, and intend to plant several thousand more, planting as many trees each year as circumstances will permit. We are developing a large sugar plantation at Oaxaqueña, as we have between 7000 and 8000 acres of very fine sugarcane land and have cleared there 4300 acres of land. We are now planting sugarcane for nurseries, etc., and have in about 300 acres. We have employed the Honolulu Iron Works Co., of Honolulu, to engineer and construct our sugar factory, which will have an ultimate capacity of 2500 tons of cane per day. We do not know that you are interested in this branch of our enterprise, but as it is all one thing with us, we deem it

proper to call your attention to it. We intend to push the rubber end of the plantation improvement vigorously also. In addition we are engaged in the cattle business, having 12,000 head of cattle on the plantation now and about 6000 acres of cattle pastures developed.

RUBBER AND TEA IN CEYLON.

If by what a correspondent tells us [says *The Times of Ceylon*] be not exaggerated, some few estates in Kalutara and Kelani Valley will, before many years have passed, have to decide whether they intend to continue cultivating tea or rubber, so thickly has the latter been planted, at all events in certain fields. We take it, however, that when the time comes to decide this knotty point, it will not be so difficult as it might be to-day. Rubber ought not to interfere very greatly with the yield of tea till past its third year, and the great bulk of the rubber in those two districts is not yet as old as that, so far at all events as the trees planted through the tea are concerned. That the decision will have to be made sooner or later by all those who have planted rubber 15 × 15 through their tea is certain enough, for land cannot permanently carry two products, if one of those is rubber. But there will be time enough to settle the question later on.

SELANGOR RUBBER CO., LIMITED.

THIS company was floated in Great Britain in 1899, with headquarters at Glasgow, with £26,000 capital, in £1 shares, all of which has been issued. The company purchased 5600 acres, north of the Klang river, in Selangor, for £6000. After selling 200 acres to the government for an experimental garden, Mr. W. W. Bailey, the company's manager, advised the purchase of 591 acres adjoining, which was done. The sellers elected to take a considerable part of their payment in shares, at £2 10s. each, for which purpose, and to provide additional working capital, the capital of the company was increased by £4000, making a total of £30,000 [= \$145,995]. Shares have been known to change hands at a price as high as £3 2s. 6d. A Colombo newspaper mentions a well known Ceylon planter as holding 6000 shares of this company, for which he has refused £3 per share, and several important members of the Straits government are reported to hold shares. [See THE INDIA RUBBER WORLD, May, 1904 (page 272), and September 1, 1904 (page 409).]

TO PLANT RUBBER IN NICARAGUA.

EL Rey Rubber Plantation Co. was incorporated October 7, 1904, under the laws of Massachusetts, with \$100,000 capital. The list of incorporators includes Alfred C. Adler, of Waltham, Mass., whose interest in "La Victoria" and "El Triunfo" rubber plantations, at La Paz, Nicaragua has been reported hitherto in THE INDIA RUBBER WORLD. Owing to the results attained on the plantations mentioned, their owners have received many applications to be allowed to join them, and the new company has organized to develop a plantation on lands purchased from Mr. Adler and his associates. The rubber species to be planted is *Manihot Glaziovii*, the rubber of the Brazilian state of Ceará. The offices of the new company are located in the Penn Mutual building, Boston.

CIE. BRUXELLOISE POUR COMMERCE DU HAUT CONGO.

THE accounts for the fiscal year ended May 31, 1904, presented at the annual meeting on October 12, show a deficit of 35,644.16 francs, which, added to last year's deficit, makes a total of 116,157.66 francs. In making up the report all rubber in store in Africa or in transit was figured at cost. During the year 18,406 kilograms of rubber were collected, against 1582 kilograms last year, and still better results are expected in future. A favorable result is expected in a suit against the Société Forestière et Commerciale du Haut Congo, which will

give the company control of new stations, with facilities for an increased production of rubber from *lianes*. The operations of the company are on the Lulonga and Kwango rivers.

BRIEF MENTION.

THE Orizaba Rubber Plantation Co. (Chicago), operating in the state of Chiapas, Mexico, were awarded a gold medal for the display of crude rubber, cacao, etc., from their plantation, made at the St. Louis World's Fair.

—Through an oversight which is regretted, the name of the treasurer of the recently incorporated Nicaragua Rubber Co. was incorrectly given in the last INDIA RUBBER WORLD (page 35). The name should have been printed Charles M. Crocker; his address is No. 41 Lafayette place, New York.

A YACHTING CRUISE UP THE AMAZON.

THE steam yacht *Virginia* sailed from New York at noon on November 15, for a three months' cruise in southern waters, the chief objective points being Pará and Manáos, on the Amazon river. The yacht was chartered for the purpose by Mr. E. C. Benedict, commodore of the New York Yacht Club, head of the banking firm of E. C. Benedict & Co., and a director and member of the executive committee of the United States Rubber Co. The remaining members of the party were as follows:

Mr. William M. Ivins, of the legal firm of Ivins, Kidder & Melcher; a former partner in W. R. Grace & Co., merchants with important South American interests; and at various times counsel for the United States Rubber Co. and Rubber Goods Manufacturing Co.

Mr. J. Howard Ford, a director in the United States Rubber Co.

Mr. Edward M. Backus, sometime United States consul at Pará and subsequently engaged in the Amazon rubber trade, and as representative at Manáos of various American interests; at present *concessionaire* for wireless telegraphy on the Amazon.

Mr. Charles W. Keep, a broker, and one of the oldest members of the New York Stock Exchange.

Mr. Russell G. Colt, son of President Colt, of the United States Rubber Co.

Dr. John F. Gains, of the Hahnemann Hospital, New York.

Mr. L. D. Huntington, of the New York Stock Exchange.

Mr. Charles F. Hastings.

Mr. Richard Arthur, private secretary to Mr. Ivins.

Master Melville Truesdale, son of President Truesdale, of the Delaware, Lackawanna and Western railway.

The party expected to touch at Bermuda, Martinique, and Barbados on the way south. The *Virginia* is due to arrive at Manáos in time for the formal installation of the wireless telegraph service to Pará, by the American Wireless Telegraph and Telephone Co., mentioned already in THE INDIA RUBBER WORLD. The cruise may be continued up the Amazon as far as Iquitos, Peru—about 2000 miles from the seaboard. Returning, the *Virginia* may drop down the Atlantic coast to Rio and Buenos Aires, and later, on their way home, spend a few days in the West Indies.

It is understood that the voyage to the Amazon is not undertaken altogether as a pleasure trip; the close connection of several members of the party with American rubber interests suggests naturally that a prolonged visit to the most important rubber producing region of the world may have in view the promotion of those interests. Commodore Benedict, besides being a director in the United States Rubber Co., sustains a similar relation to the General Rubber Co., a subsidiary corporation created for supplying the manufacturing company's very large requirements in crude rubber direct from the primary markets.

PETERSEN'S RECLAIMING PROCESS.

A NEW process of reclaiming rubber is the subject of United States patent No. 774,727, granted to Ludwig T. Petersen (Akron, Ohio). The specification points out that the practice of reclaiming rubber hitherto by chemical processes has involved a liability to impair the strength of the rubber, while it has been practically impossible to work reclaimed rubber without the addition of new rubber of a character adapted to soften the mixture and act as a flux, to prevent the formation of lumps or blisters during the process of milling. It is pointed out that alkalis at the high temperature requisite for destroying the fibers in worn out rubber goods have a tendency to destroy the caoutchoucine present in the rubber, and thus hardening it. The new process is designed to effect both the removal of the fiber and the devulcanization of the rubber, without attacking this necessary oil.

Petersen's process consists in subjecting shredded or ground rubber waste to the action of an alkaline solution raised only to a boiling temperature, but preferably under hydraulic pressure to insure permeation, whereby the fiber is converted into soluble form or cellulose hydrate. The caustic solution being removed, the remaining mass is subjected to an aqueous solution containing a small percentage of hydrocarbon or oxyhydrocarbon, such as phenol, under high temperature and pressure, whereby any remaining alkali is combined, the rubber devulcanized, and the resulting product rendered easily workable.

A suitable apparatus for the process is indicated in the patent drawing. The rubber waste is placed within a double walled cylinder, having the necessary steam and hydraulic connections, a caustic solution being added. Steam being admitted to the jacket to raise the contents of the cylinder to the boiling point, power is applied to a rotatable shaft armed with paddles or blades for the purpose of stirring the contents of the cylinder. Next hydraulic pressure is applied to the interior of the cylinder for securing the thorough permeation of the mass, and the conversion of the

fiber into cellulose hydrate, after which the mass is placed in a centrifugal drier to remove the soda solution. The mass is then returned to the cylinder, with a dilute solution of a hydrocarbon—as a 1 to 10 per cent. solution of phenol. Steam is again admitted to the jacket to create a temperature within the cylinder of 300° to 375°F., insuring a pressure of 50 to 175 pounds. Following the latter treatment, the rubber mass is washed, dried, and milled for working in the usual manner.

Associated in interest with Mr. Petersen in securing this patent is John F. McGuire. Both were until recently in the employ of The B. F. Goodrich Co. (Akron). It is reported now that they are seeking to organize a company for the exploitation of the new patent, and that encouraging promises of capital have been secured.

So far as is apparent from the specification, the only novelty in the process described is the limiting of the temperature in

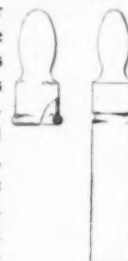
the first stage to the boiling point. The assertion that rubber as reclaimed under the existing practice is workable only with the addition of new rubber, would indicate that the inventor's library of compound books has not been brought up to date. To the Akron correspondent of THE INDIA RUBBER WORLD Mr. Petersen said, of his process:

"It is somewhat similar to the process already patented by Mr. A. H. Marks, the inventor of the process used by the Alkali Rubber Co. here, but yet it is different in many respects. I do not care to explain the difference."

In regard to a published rumor that the Goodrich company might bring suit to establish a claim to the new invention, on the ground that it was developed in the course of work done under their direction and at their expense, Mr. Petersen stated that he had nothing to say.

MANUFACTURE OF RUBBER NIPPLES.

A SPINDLE for forming rubber nipples for nursing bottles is the subject of United States patent No. 772,161, granted to Charles E. Longden, assignor to The Falcon Rubber Co. (New Haven, Connecticut). The shorter figure in the illustration gives a side view of a nipple constructed on such a spindle, partially broken away at the open end. The other figure is a side view of the spindle with the nipple removed. The object of the invention is to form spindles whereby "seamless" nipples having an inwardly extending rib may be produced. The spindle is formed at its outer end corresponding to the form of the desired nipple, the spindle being dipped repeatedly into soluble rubber until the requisite thickness is attained. By the use of a spindle with a groove, not only is the nipple provided with an inwardly extending rib—to enable the nipple to more closely grip upon the neck of the bottle—but the groove also forms a guide for the operator in forming the rib, so that the nipples are always of the same length, and therefore give a better appearance when packed in boxes for the market, than when they vary in length, as must be the case when made in the ordinary manner, without such guide.



LIMITING JOBBERS' SELLING PRICES.

AT the annual meeting of the American Hardware Association, at Atlantic City, New Jersey, on November 17, Mr. George Reuter, Jr., general manager of the American Wringer Co., spoke on the methods of distribution employed by his company. As reported by the New York *Commercial*, he said:

"After several years of ruinous competition, our machine became so unprofitable to the jobbers that we decided the only way to afford him a profit was to limit the price at which he could sell our goods. This we did on February 1, 1902. Although alone in this move, we had the coöperation of a majority of the jobbers, and therefore met with great success, and the limited price system proved most satisfactory for two years, and it no doubt would have been equally successful this year, but for the fact that the very high cost of crude rubber necessitated three advances in prices of wringers within four months.

"Some jobbers, having old stocks, could not resist the temptation of turning paper profits into cash, and other manufacturers did not limit their jobbers as to prices; therefore there has been more or less irregularity in prices this year, but I still have the greatest faith in a maintenance of price system for the sale of standard goods. It takes from the catalogue house the strongest weapon it now has, and benefits all business men, be they retailers, jobbers, or manufacturers."

THE "SWEATING" OF CONGO RUBBERS.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Since the publication of my letter in your journal of October 1 (page 3) I have had numerous letters from different parts of the world referring to the same, many of them asking questions regarding crude rubber. I think the best way to answer them is through the same medium as before, which I do as follows:

When criticizing Congo rubber, I do so from a manufacturer's point of view only. The great trouble with which the factory has to contend is that the quality is not constant; neither is the elasticity. To-day we are paying anywhere from 80 to 97 cents a pound for the grades known as "tresses," Lapori, Aruwimi, etc. Practically speaking, as far as the manufacturer is concerned these are all in the same family, and are used in the same way, dried and seasoned in the same temperature, and so on. Now we buy, say 10 tons of "tresses"; they are clean, have a beautiful appearance, and a very small shrinkage, say 5 to 8 per cent. The results are highly satisfactory, and we call upon our broker for some more. He informs us that he has some of the same lot, actually the same. Again we buy, and we have a feeling that we are all right, and that this last lot will fully equal the first, but some day our foreman informs us that the goods are not curing well, don't look well, don't feel as good as usual, and in short, that something is wrong.

We commence to investigate, and we gradually work back, through the curing process, mill room, compound room, reclaiming department, and finally the washhouse. We ask the foreman here if there is anything wrong with the rubber; he says "No," but we investigate for ourselves, and we note that here and there in the drying room the sheets are falling; the temperature is correct, but the rubber is not. Upon examination of a fallen sheet, at the fracture, we find it quite soft and mushy; it shows decomposition. Upon opening up a bag, we see evidences of the rubber having sweated. Now I am not quite sure that "sweated" is the correct term; of course I can only look at it from the factory end, as I mentioned before, and here is the way the whole thing appears to me.

The latex is gathered into a receptacle and a process of coagulation is carried out, either with the aid of chemicals or heat; sometimes, as we read it, it is with aid of the heat of the human body, etc., and I think that it is right here that the trouble commences; the coagulation is not perfect, not absolutely complete. The edges of the receptacle are allowed to retain non coagulated latex, and this is smeared more or less on the balls, etc., of the correct article; this I should imagine is not noticeable at the time, owing to the whole mass being more or less sticky, consequently it passes. It is now baled up and starts on a long journey to Europe, and during the voyage this non coagulated mass begins to "sweat" and decompose. On its arrival the rubber is found to be "more or less sticky"; that is, the non coagulated mass has resolved itself into a soft sticky mass, resembling some of the rubber substitutes.

Of course this may be caused by exposure to the sun, but owing to general appearances, I am not inclined to that theory. That this "sticky" mass shows decomposition is easily proved by the absence of elasticity, also the absence of any swell or expansion when dissolved in benzine.

In conclusion, I think that if some of the men who are responsible for the first stages could visit some of the factories

in America or Europe, they would quickly be able to figure out the why and wherefore of these troubles and so eliminate them. Yours truly,

A. D. THORNTON.

General Superintendent, The Canadian Rubber Co. of Montreal.
Montreal, Canada, Nov. 14, 1904.

A MODEL MOLDED GOODS DEPARTMENT.

NO other rubber factory in the world has so large or so thoroughly organized a department for the manufacture of molded goods as has The B. F. Goodrich Co. (Akron, Ohio). The illustration herewith shows one end of the press room, in which there is a battery of 200 hydraulic presses, all built for and equipped to turn out small work. These presses are run in three sections, the division turning on the temperature



THE GOODRICH MOLDED GOODS DEPARTMENT.

maintained in each. They are set so that all of the piping is easily within reach, thus avoiding any unnecessary lifting of the molds, while behind each press is a pipe through which fresh air is forced, driving away the heat and the fumes that usually conspire to make the workman's task exceedingly disagreeable. In connection with this press department is a completely equipped machine shop where new molds are made, the average being about seven a day for 300 working days. The system prevailing through this department is ideal and has resulted in so large a business that recently another department of 50 presses has been added, with the prospect that that also in time will undergo notable growth.

THE NEGLECT OF BICYCLE TIRES.

[FROM "THE BICYCLING WORLD," NEW YORK.]

PRACTICALLY all of the manufacturers who make automobile tires also make bicycle tires. A number of them are spending considerable sums in national mediums in advertising the automobile tire. The fact should suggest that they might help their business, and incidentally the cycling interests, did they in ever so small a way include in such advertisements the mere fact that they make bicycle tires also.

ONE of the attractions of the grounds of Girard College, in Philadelphia, during the past summer, was a "rubber forest," comprising eighteen fine specimens of *Ficus elastica*, of unusual size for greenhouse plants of this species.

RECENT RUBBER STATISTICS.

RUBBER PRODUCTION OF LAGOS.

THE details which follow are derived from the annual report on the British colony of Lagos, in west Africa. Prior to 1894 the recorded exports of rubber from Lagos did not exceed £6 8s. in value. Beginning with that year the amount of rubber exported annually for ten years, as recorded in the custom house, has been as follows:

| Pounds. | Pounds. |
|--------------------|--------------------|
| 1894.....5,867 | 1899.....1,993,525 |
| 1895.....5,269,503 | 1900.....596,332 |
| 1896.....6,484,363 | 1901.....194,277 |
| 1897.....4,458,327 | 1902.....151,440 |
| 1898.....3,778,266 | 1903.....131,311 |

The report says: In 1899 the collecting of rubber was somewhat abruptly checked by the death of some 75 per cent. of all the rubber trees in the country. At the same time regulations were put in force by the different native authorities to prohibit tapping the trees for a period of four years, to give some chance of recovery to the few weakly trees that survived, and to allow young ones to grow up. Of the rubber exported since 1900 a part has come from beyond the Lagos territory, but probably the greater portion of it is rubber that has been collected in violation of the restrictions imposed. In 1903 it was found by expert examination of the forests that a considerable quantity of rubber could in the latter half of the year have been collected in some of the provinces; but, after mature deliberation, the authorities concerned decided to leave the trees untapped for one year more, having been assured that they would thereby obtain a better harvest. It was also arranged that collectors should in future be licensed, taught, and registered, so that a more scientifically correct method of collection should take the place of the destructive, ignorant, and reckless procedure practised formerly.

RUBBER PRODUCTION OF THE GOLD COAST.

THE annual report for 1903 on the Gold Coast colony (which adjoins Lagos) indicates a revival in the production of rubber. At one time it was feared that a permanent decline had set in, due to the destruction of rubber plants, but the colonial authorities now hope that this was a mistake, and "that the disturbed state of the *hinterland* in 1900-01 was the main cause of the decline." Exports for ten years:

| Exports for ten years. | | Exports for ten years. | |
|------------------------|-----------|------------------------|-----------|
| Year. | Pounds. | Year. | Pounds. |
| 1894..... | 3,027,527 | 1899..... | 5,572,554 |
| 1895..... | 4,022,385 | 1900..... | 3,452,440 |
| 1896..... | 3,735,439 | 1901..... | 1,520,009 |
| 1897..... | 4,957,016 | 1902..... | 1,599,971 |
| 1898..... | 5,984,984 | 1903..... | 2,258,981 |

PERU.

THE total exports of rubber are stated, in British consular reports, at 1726 English tons for 1901; 1674 tons for 1902, and 2075 tons for 1903.—Rubber exports from Mollendo (on the Pacific coast) for three years are stated—in pounds:

| | 1901. | 1902. | 1903. |
|-------------------|---------|---------|---------|
| From Peru..... | 33,600 | 67,200 | 69,440 |
| From Bolivia..... | 616,000 | 656,320 | 687,680 |
| Total..... | 616,515 | 649,600 | 723,520 |

The remainder of the Peruvian output of rubber was shipped from the eastern provinces, down the Amazon.

ANGOLA (PORTUGUESE WEST AFRICA).

[From British Consular Reports.]

EXPORTS of rubber from Ambriz, Loanda, Benguella, and Massamedes during 1903 reached 2,678,000 kilograms—the largest since 1899, when 3,380,012 kilos were exported.—Ex-

ports of Almeida in 1903 were 68,000 kilos, in addition to the above figures; exports in 1899 were 123,371 kilos.—The increased exports from this section apparently are due to increased means for reaching remote supplies, together with the higher prices of rubber.

A HANDY BOOK OF RUBBER FIGURES.

THE firm of Alden, Symington & Co., India-rubber merchants (London), have rendered a genuine service to the trade by issuing a little book, under the title "Pará Statistics and Parity Tables," designed for ready reference in connection with prices, stocks, etc.

In the first place a table is given of equivalent prices of crude rubber—in English and American money per pound, and francs and marks per kilogram. These tables begin with rubber at 6 pence [=12½ cents] and, including fractional prices, proceed to 5s. 6d. [=£1.33¾], with the corresponding prices in francs and marks. The little table herewith is introduced only to illustrate the idea; the complete list in the book gives equivalents for 300 different quotations. Besides, in the book, the English prices are given in the first column:

| PER POUND. | | | PER KILO. | | PER POUND. | | | PER KILO. | |
|------------|----|-----|-----------|--------|------------|----|-----|-----------|--------|
| CENTS. | S. | D. | FRANCS. | MARKS. | CENTS. | S. | D. | FRANCS. | MARKS. |
| 65 | 2 | 8½ | 7.40 | 6.00 | 95 | 3 | 11 | 10.58 | 8.80 |
| 70 | 2 | 10½ | 8.00 | 6.50 | 100 | 4 | 1½ | 11.83 | 9.25 |
| 75 | 3 | 1 | 8.55 | 6.93 | 105 | 4 | 3¼ | 12.60 | 9.70 |
| 80 | 3 | 3½ | 9.12 | 7.40 | 110 | 4 | 6¼ | 12.54 | 10.20 |
| 85 | 3 | 5½ | 9.68 | 7.85 | 115 | 4 | 8¾ | 13.10 | 10.63 |
| 90 | 3 | 8¾ | 10.26 | 8.30 | 120 | 4 | 11¼ | 13.68 | 11.10 |

Alden & Symington's book next contains statistics of the Pará rubber receipts, by months, for a number of years; the world's visible supplies, month by month; and Liverpool prices of Pará sorts. Each table includes blank spaces, in which future stocks and prices may be entered, to the end of 1909. A few figures have been compiled from the book, relating to the world's visible supply of Pará rubber and Liverpool prices, as follows:

| | 1900. | TONS. | PRICE. |
|--------------------------------------|-------|-------|----------|
| Highest stocks, end of February..... | 5513 | | 4s. 6¼d. |
| Lowest stocks, end of September..... | 2216 | | 4s. 3½d. |
| | 1901. | | |
| Highest stocks, end of March..... | 5177 | | 3s. 7¼d. |
| Lowest stocks, end of August..... | 2239 | | 3s. 8½d. |
| | 1902. | | |
| Highest stocks, end of March..... | 5723 | | 3s. 1½d. |
| Lowest stocks, end of September..... | 2596 | | 3s. 1½d. |
| | 1903. | | |
| Highest stocks, end of March..... | 4558 | | 3s. 0¼d. |
| Lowest stocks, end of September..... | 1676 | | 4s. 8½d. |
| | 1904. | | |
| Highest stocks, end of January..... | 3714 | | 4s. 4¼d. |
| Lowest stocks, end of June..... | 1677 | | 4s. 9¼d. |

A study of these figures will show that the course of rubber prices does not always follow the rise or decline of stocks; for instance, the price of fine rubber was the same on March 31 and September 30, 1902, although the reported visible supplies at the later date were less than half as large as at the earlier date. Another point of interest is that the lowest figure in stocks is usually reached at the same time, year after year—just before the arrival of new crop rubber—while the largest stocks, at the practical close of the crop season, also occur at about the same period annually.

CANADA'S OLDEST RUBBER FACTORY.

THE Canadian Rubber Co. of Montreal completes this year the first half century of its existence, though if it be considered the successor of an older establishment which operated the first rubber industry in Canada, it has several years more to its credit. Not only is the company the oldest in the rubber industry in the Dominion, but it has lost none of the enterprise and progressiveness which, early in its history, gave it important standing in the ranks of rubber manufacturers. During a year past the company has spent more than \$300,000 for new machinery and various improvements of the factory, so that the whole plant is now in fine order, and other additions and further improvements are already under consideration by General Manager McGibbon.

As illustrating the improvements recently made, mention may be made of the new boiler house, which is one of the most complete in the Dominion. The following is a description of the boiler plant:

There is an equipment of Stirling water tube boilers, comprising four units of 348 HP. each, or a total of 1392 HP. The furnace gases pass through a Green economizer on their way to the stack, and draft is furnished by a 200 inch Sturtevant fan, direct connected to a horizontal engine. The feed water is supplied to the boilers by two double acting outside packed plunger pumps, built by the Canada Foundry Co., each $6\frac{1}{2} \times 4\frac{1}{4} \times 8$, and it passes from these through a vertical Wainwright feed water heater, and thence through the economizer to the boilers. Two injectors are provided for use in case of emergency. Coal bunkers, sufficiently large to carry a three days' supply, open off the boiler room and are so arranged that teams can be driven over the tops of them and the loads dumped through coal holes in the roof. At the rate of $34\frac{1}{2}$ pounds of water per HP. per hour, the boilers, running at their full capacity, would require 800.3 pounds of water per minute, or 240 United States tons per day of 10 hours. The mechanical plant is operated by a Scotch engine 20" and 34×60 ", giving 438 indicated HP., and one Laurie-Corliss engine 20" and 40×48 ", giving 700 HP.

The factories, warehouses, and general executive offices of the Canadian Rubber Co. are situated near the St. Lawrence river, in the busy manufacturing center of Montreal, and in an ideal location for receiving raw material and shipping manufactured products. The factories alone cover several acres of ground, and employ from 2000 to 3000 persons, according to the season. Extensive sales branches have been established for many years at Halifax, Montreal, Toronto, Winnipeg, and Vancouver, where large stocks of the company's products are always carried. The company deals directly with the retail trade and with the wholesale jobbing trade, and transacts a business of several million dollars a year, covering all parts of the Dominion, besides making considerable exports to other countries. Practically every class of rubber goods is manufactured by the company.

The company for many years has specialized in heavy mechanical rubber goods, and particularly in the line of large elevator belts for use in the extensive grain elevators in the Dominion. The last elevator to be equipped with belting from this company was the Canadian Pacific Railway Co.'s "B" elevator at Fort William, Ontario. All the belting used in this elevator was made to special specifications and was pronounced by experts to be one of the finest lots of elevator belting ever produced.

In rubber footwear of every style the "Canadian" brands of this company have been standard in the trade for 50 years. An

enormous business is done in heavy footwear, the requirements of the great lumbering interests of the Dominion in this respect being given special attention. The daily output of the shoe factory is over 15,000 pairs. Many special brands are made, but the product of the Canadian Rubber Co. in footwear has always been broadly identified with the word "Canadian."

Sir H. Montagu Allan is the president of the company, and the directors are all men who, for many years, have been prominent in the banking and commercial interests of the Dominion.



D. LORNE M'GIBBON.

A portrait is presented here of Mr. D. Lorne McGibbon, general manager of the company, who is one of the foremost industrial organizers of the Dominion. He gained deserved prominence among Canadian manufacturing interests some few years ago by his successful management of the Laurentide Pulp Co. (Grand Mere, Quebec), the largest pulp and paper concern in Canada. He has met with marked success in his present important position, and under his control the Canadian Rubber Co.

has made remarkable progress, in keeping with the great expansion of the Dominion. Mr. McGibbon is one of the leading members of the Canadian Manufacturers' Association, and is also identified with many other kindred organizations.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values of exports of manufactures of India-rubber and Gutta-percha, for September, 1904, and for the first nine months of five calendar years:

| MONTHS. | Belting, Packing, and Hose. | Boots and Shoes. | All other Rubber. | TOTAL. |
|----------------------|-----------------------------|------------------|-------------------|-------------|
| September, 1904. . . | \$ 76,273 | \$103,410 | \$ 178,682 | \$ 448,365 |
| January-August. . . | 570,972 | 651,392 | 1,600,574 | 2,822,938 |
| Total. | \$647,245 | \$844,802 | \$1,779,256 | \$3,271,303 |
| Total, 1903. . . . | 633,744 | 628,592 | 1,855,756 | 3,118,092 |
| Total, 1902. . . . | 513,636 | 718,759 | 1,467,000 | 2,699,395 |
| Total, 1901. . . . | 447,653 | 567,397 | 1,321,115 | 2,336,165 |
| Total, 1900. . . . | 401,604 | 411,899 | 1,117,539 | 1,931,042 |

JAPAN.—The value of exports of India-rubber goods from the United States to Japan during recent fiscal years is thus stated in official publications from Washington:

| 1892-93. | 1896-97. | 1900-01. | 1901-02. | 1902-03. |
|----------|----------|----------|-----------|-----------|
| \$27,984 | \$42,006 | \$97,580 | \$114,586 | \$159,100 |

British exports of rubber goods to Japan, for the last five calendar years, have been in value as follows—official figures stated in equivalents in American money:

| 1899. | 1900. | 1901. | 1902. | 1903. |
|-----------|-----------|-----------|-----------|-----------|
| \$129,078 | \$145,763 | \$121,815 | \$141,909 | \$129,005 |

CANADA.—Value of exports of manufactures of India-rubber and Guttapercha, of Canadian production, by fiscal years, and the distribution of the same:

| YEARS. | United States. | Great Britain. | Other Countries. | TOTAL. |
|------------------|----------------|----------------|------------------|-----------|
| 1898-99. | \$ 85,084 | \$23,290 | \$24,958 | \$133,332 |
| 1899-00. | 108,811 | 14,392 | 47,245 | 170,448 |
| 1900-01. | 57,772 | 15,690 | 78,194 | 151,656 |
| 1901-02. | 183,664 | 36,824 | 96,084 | 322,572 |
| 1902-03. | 124,426 | 46,155 | 92,126 | 262,707 |
| 1903-04. | 9,994 | 39,378 | 78,695 | 128,067 |

Exports to "Other Countries" include shipments on a liberal scale to Australia.

A NEW ENGLAND RUBBER CLUB "SMOKE TALK."

THE New England Rubber Club plans to have at least two informal club socials a year—one in the summer, which takes the form of a picnic and dinner; and one in the fall or winter, which is usually a "smoke talk." An entertainment of the latter class was called for the evening of November 21. It happened that Mr. Henry C. Pearson, the secretary of the Club, had recently returned from a trip to Central America and had become possessed of a number of photographs illustrative of the region visited, in consequence of which he was summoned by the executive committee, and persuaded to tell the story of his trip, accompanied by stereopticon views.

The spacious assembly room at the American House, in Boston, was chosen as the place of meeting, and it served the purpose admirably. The Club had its own coat room, ample space for the social half hour that preceded the lecture, excellent seating, and later plenty of room at the luncheon tables, and a most appetizing lunch.

The story of the trip to the wild *Castilloa* lands in the peninsular of Azuero was listened to for two hours without an apparent break in the interest. Eighty-two views were shown, embracing the city and suburbs of Colon, views along the Panama canal, old and new Panama; Toboga, Gubernador, and Cebaco islands; scenes in the wild lands, embracing views of mountains and plains, primitive camps, natives, together with glimpses of the ancient towns of Las Minas, Pesé, Chitre, and so on.

THE secretary of the Club then announced that he had been requested by certain of its members, who were extensive manufacturers, to bring to the attention of the Club a matter which might ultimately have an important bearing upon the interests of the whole trade.

It was reported that the municipal government at Pará had applied for permission from the federal government, at Rio de Janeiro, to convert a certain public park in Pará into city property, upon which should be built an *entrepoto* or depôt where all rubber landed at Pará should be weighed, graded, and made ready for shipment; that the local government then planned to make a decree granting a concession to certain parties, probably not citizens of Brazil, who should receive all of this rubber, grade it, distribute it, and have the right to put upon it an additional tax, beyond the export duty of 22 per cent. already assessed; that the British minister at Rio, being informed of this, had laid the matter before his government; that the Hon. Thomas C. Platt, a United States senator of New York, had laid this matter before the department of state at Washington, with the result that the department had promised to communicate with Rio; and that the matter had otherwise been brought to the notice of the Washington government. It was further stated that a somewhat similar concession had once been either proposed or actually granted at Pará, and that the British government had made vigorous protestations against it, on the ground that it tended to make a monopoly against the interests of British commerce, and the matter was dropped. There was thus afforded a precedent for such action by the United States government at this time as should fully protect its citizens, at least to the extent that no privileges or rights, detrimental to their own, should be granted by the Pará government to citizens of any other country.

It was, therefore, suggested as advisable that a committee of rubber manufacturers be formed, to bring further representations before the United States department of state, through their senators and congressmen, to the end that the interests of American citizens be not discriminated against or otherwise jeopardized by means of any concession that might be granted at Pará. The committee to be appointed, it was specifically stated, should not be a committee of the New England Rubber Club, which is a purely social organization, but should include rubber manufacturers in other parts of the United States. It was also stipulated that the committee raise and disburse its own funds, and elect its own officers.

The following committee was then nominated, and elected by the Club: L. D. Apsley, chairman; Augustus O. Bourn, vice chairman; E. E. Wadbrook, B. G. Work, James Bennett Forsyth, C. C. Converse, A. W. Stedman, John H. Flint, John Hopewell, F. C. Hood, Joseph Davol, A. M. Paul, E. S. Williams, and Henry C. Pearson. F. H. Jones, No. 50 Bromfield street, Boston, was named as temporary secretary.

* * *

THIS business being transacted the audience were introduced to the viands, to which they did ample justice. Ex Governor A. O. Bourn presided throughout the evening, as President Apsley was called away at the last moment by important business. A list of the Club members who were present follows, besides whom there were about fifty guests:

| | | |
|-------------------------|---------------------|---------------------|
| F. H. Appleton. | John H. Flint. | Leo. F. Nadeau. |
| Horace P. Allen. | W. M. Farwell. | Harry H. Noyes. |
| Hon. Augustus O. Bourn. | W. H. Gleason. | Henry Nickerson. |
| C. J. Bailey. | B. F. Good. | Geo. E. B. Putnam. |
| Ira F. Burnham. | Fred C. Hood. | E. B. Pearson. |
| Winslow H. Chadwick. | A. N. Hood. | Henry C. Pearson. |
| Frank T. Carlton. | Freeman Hunt. | John S. Patterson. |
| R. L. Chipman. | E. S. Hyatt. | W. H. Palmer. |
| Charles A. Coe. | E. D. Hewins. | Robert L. Rice. |
| W. C. Coleman. | G. Edw. Habich. | A. F. Solberry. |
| J. O. DeWolf. | F. H. Jones. | S. P. Sharples. |
| R. L. Dorr. | E. Jacoby. | A. W. Stedman. |
| J. Frank Dunbar. | Robert Josselyn. | A. M. Stickney. |
| C. F. Edgerton. | George W. Knowlton. | Alonso P. Spear. |
| H. P. Fuller. | James H. Learned. | Thomas J. Skinner. |
| James Bennett Forsyth. | Frank L. Locke. | H. D. Scott. |
| Thomas A. Forsyth. | Max Lowenthal. | Joseph C. Stedman. |
| | Fred. L. Morse. | F. W. Veazie. |
| | H. F. Mayo. | George P. Whitmore. |
| | Henry C. Morse. | |

RUBBER TRANSPORT IN FRENCH SUDAN.

A LETTER to *Le Temps* (Paris) from the French Sudan says that hitherto the transportation of Caoutchouc from Sikasso (a center of great importance) to Banmako, whence it was carried to Kayes by rail and to St. Louis, on the coast, by river steamer, was by means of carriers or donkeys. The load of a carrier was 30 kilograms, and the price paid 6.50 to 7.50 francs, the journey of 340 kilometers [=211 miles] occupying a fortnight. A donkey could carry 90 kilograms, but the time was longer, and the cost no less. The average cost, therefore, is put down at 250 francs [= \$48.25] per ton. Now that a road for mule carts has been opened from Sikasso to Bimakko, it is estimated that cart loads of 300 kilograms will be carried through in 15 days, at a cost not exceeding 100 francs [= \$19.30] per ton.

NEWS OF THE AMERICAN RUBBER TRADE.

MECHANICAL RUBBER MANUFACTURERS' ASSOCIATION.

A REGULAR meeting of the Mechanical Rubber Manufacturers' Association of the United States will be held on Thursday, December 1, at 10.30 A. M., in the Astor dining room of the Waldorf-Astoria, in New York. The by laws provide for regular meetings on the first Thursdays of October, December, February, April, and June of each year. The details of the plan of organization were reported in the last issue of THE INDIA RUBBER WORLD, on page 59.

THE NEW FACTORY AT JAMESTOWN.

THE Amazon Rubber Co. (Jamestown, New York), the incorporation of which was reported in this Journal on September 1 (page 439), reported recently that they were progressing well with the installation of their machinery, and hoped to begin manufacturing by December 1. It is their intention to make solid, cushion, and pneumatic tires; mats, matting, tiling, and other mechanical goods. Charles H. Walters is general manager of the company.

ELECTRIC RUBBER MANUFACTURING CO.

THE incorporation of this company, with \$1,000,000 capital, under New Jersey laws, was reported in THE INDIA RUBBER WORLD November 1, 1903 (page 59). The company on October 11, 1904, filed at Trenton amended articles of incorporation, by the terms of which \$200,000 of the capital stock is to be 7 per cent. cumulative preferred shares of \$100 each, and the remaining \$800,000 in common shares of \$100. The registered offices are at No. 1 Montgomery street, New Jersey. James H. George is president and Charles H. George secretary, but neither of these has been identified with the rubber business. Under date of November the secretary wrote: "The purpose of the company is to manufacture rubber specialties, but it has not yet finished its experiments. Our experiments may take six months more."

A SOUTHERN DRUGGISTS' SUPPLY HOUSE.

DURING the past year the Baltimore firm of Miller Brothers, jobbers of rubber druggists' sundries, have added several lines, and are now importing tooth brushes, hair brushes, glassware, etc. Their trade is with druggists and hospitals, over the southern states, as far as and including Florida. Their stock is not excelled, in respect to extent or variety, by that of any druggists' supply house south of New York, as one may be convinced by an examination of the new catalogue which they are circulating in the trade. The firm was established in January, 1892, and is composed of Joseph C. and L. Dudley Miller, the former of whom was sometime manager of the druggists' sundries department of the Baltimore Rubber Co. After the recent great fire in Baltimore Miller Brothers secured a new location, No. 209 West Camden street.

BISHOP GUTTA-PERCHA CO. (NEW YORK.)

IT has not been generally known that H. E. Blitz, named as president of the Bishop Gutta Percha Co. (New York), on the letterheads of that company, was Mrs. Helen E. Blitz. Attention was called to the fact, however, by the death of this lady at her home in Westfield, New Jersey, on October 22. She was a relative of the wife of the late Samuel C. Bishop, who gave his name to the company in 1857, and in 1860 established its factory at the present location in East Twenty-fifth street, New York. After the death of Mr. Bishop, in 1872, the business was continued under the direction of his widow, with the

assistance of Mrs. Blitz, who also had become a widow. Upon the death of Mrs. Bishop in 1881, Mrs. Blitz, by the collateral wills of Mr. and Mrs. Bishop, who had no direct heirs, inherited one quarter of their estate, including the Bishop Gutta-Percha works, and upon the organization of the present Bishop Gutta-Percha Co., in 1885, she was elected a director. She became its president in 1894, and held that office until her death. The remaining directors of the company are Amos A. Browning, Ellen I. Anderson, William Boardman Reed, and Henry A. Reed. William Boardman Reed, the vice president, will, under the company's by laws, act as president until the annual meeting in January. The secretary and treasurer of the company is Henry A. Reed, who has been in active charge of the company's affairs for the past seventeen years, succeeding William W. Marks, who had been superintendent of the factory for 40 years, having been connected with Stephen T. Armstrong in the manufacture of the first Gutta-percha goods made in America. The present superintendent of the factory is Harry D. Reed.

THE TORONTO GUTTA PERCHA COMPANY.

THE Gutta Percha and Rubber Manufacturing Co. of Toronto, Limited, following the destruction of their warehouses by fire in April last, were forced, through inability to lease satisfactory warehouse property in the city, to try the experiment of shipping goods direct from their factory. This change led to the transfer of their shipping staff from the city office. The new arrangement has worked so well that the company have decided to make it permanent, and with this in view are erecting a new warehouse on lands recently bought adjacent to the factory. A new building, to comprise four stories and basement, is to have a frontage of 180 feet on O'Hara avenue, and width of 52 feet, with an extension 132 x 52 feet, standing at right angles. The triangle between these two wings will be occupied by a one story and basement shipping building, and a special railway siding. Mill construction will be used, and there are to be two elevators, two staircases, large vaults, etc., all outside of the buildings proper. In the meantime, for office purposes the company have brought three freeholds on the southeast corner of Yonge and Wellington streets, Toronto, giving them a frontage of 60 feet on Yonge and 90 feet on Wellington. These properties have been rebuilt, and the company are about to occupy for offices and salesrooms the corner and Wellington street frontage. The building is, gray stone, with five stories and basement. The balance of the property the company will not occupy for the present, and it probably will be leased until such time as it may be required by the growth of their business. The company have also bought recently ten brick houses near the factories as the nucleus of a settlement for their operatives.—The company have engaged a New York concern, who use a sandblast process, to clean the walls of the stone structure mentioned above as having been secured for their offices at Yonge and Wellington streets.

A NEW SINGER CORPORATION.

THE Singer Sewing Machine Co. has filed articles of incorporation with the county clerk at Elizabeth, New Jersey, with capital stock of \$1,000,000. The incorporators are Douglas Alexander and Thomas E. Hardenburgh, of New York, and Charles Coleman, of Englewood. The Singer Sewing Machine Co. is to be the distributing agent for the Singer Manufacturing Co.

AMERICAN RUBBER SHOES IN CANADA.

At a meeting of the Rubber Boot and Shoe Jobbers' Association held in Toronto since our last report [says *The Canadian Shoe and Leather Journal*] the matter of the members of the association agreeing to handle Canadian rubbers only was again discussed. The manufacturers had requested that the members of the Jobbers' Association pass a resolution agreeing to confine themselves to the product of Canadian factories. The consensus of opinion among the jobbers present at the meeting was that they could without any disadvantage to themselves agree to handle Canadian rubbers only. The one or two firms who take exception to the proposal, while not desirous of specializing on American lines nor handling them extensively as long as they can make more money out of the Canadian product, have an eye to future possibilities. As one jobber stated, "While it is not probable that it will ever be more advantageous for us to handle American goods, there may arise some unusual circumstance whereby the foreign goods could be brought in and handled here at a greater profit than our goods, and we want to be in a position to take advantage of it; that's what we are in business for." The discussion resulted in the passing of a clause whereby the members of the association have agreed to give Canadian goods the preference.

THE DIAMOND RUBBER CO. (AKRON, OHIO.)

THIS is a corporation organized under the laws of West Virginia. The statement which follows was filed November 4, 1904, with the commissioner of corporations of Massachusetts, as required of foreign corporations, by the laws of that state, in connection with which the corresponding details filed a year ago are stated:

| ASSETS. | | | |
|------------------------------------|----------------|----|-----------|
| | 1904. | | 1903. |
| Real estate | \$ 402,436.50 | \$ | 506,278 |
| Machinery | 520,571.83 | | 577,335 |
| Merchandise | 243,624.09 | | 350,865 |
| Manufactures, materials, etc. | 372,727.39 | | 192,915 |
| Cash and debts receivable | 572,856.52 | | 626,560 |
| Patent rights | 52,000.00 | | 52,000 |
| Stocks in other corporations | 256,100.00 | | 6,100 |
| Total | \$2,420,316.33 | \$ | 2,312,053 |
| LIABILITIES. | | | |
| Capital stock issued | \$1,701,000.00 | \$ | 1,701,000 |
| Accounts payable | 7,546.32 | | 2,745 |
| Floating indebtedness | 241,138.34 | | 123,597 |
| Surplus | 128,600.00 | | 477,972 |
| Pay roll to October 1 ..... | .... |  | 6,739 |
| Profit and loss | 342,031.67 |  | .... |
| Total | \$2,420,316.33 | \$ | 2,312,053 |

A PROPOSED NEW CANADIAN FACTORY.

THE Peterboro Rubber Co., Limited, has been registered in Canada, with \$500,000 capital, for the purpose of engaging in the manufacture of hard and soft rubber goods at Peterboro—a town which, on account of the water power available, is becoming an important manufacturing center. The incorporators are: Louis T. Vance, of Marion, Indiana; H. E. Andress, Akron, Ohio; Robert Bailey, Bowmanville, Ontario; Edward Valentyne and F. Cohen, Toronto. It is understood that the capital is to be supplied principally from Chicago and Peterboro, and to some extent from Akron. Mr. Vance, who was formerly employed by The B. F. Goodrich Co., and was later superintendent of a rubber plant in Marion, Indiana, has been elected president and treasurer, and Mr. Bailey, secretary. They form the directorate, with the addition of F. M. Atterbolt, of Akron. Mr. Andress is an Akron lawyer who has been active in connection with the incorporation of the new company.

RUBBER GOODS MANUFACTURING CO.

At a meeting of the directors in New York on November 22, the twenty-third regular quarterly dividend of 1¼ per cent. on the preferred shares of the company was declared, payable out of current earnings, on December 15, to holders of record of December 6, 1904. Checks will be mailed to registered addresses.

PROSPECTIVE ADVANCE IN LEATHER BELTING.

THE eighteenth annual convention of the Leather Belting Manufacturers' Association was held on November 16, at the Fifth Avenue Hotel, New York. Twenty-five firms were represented. Several papers on topics of interest to the trade were read and discussed, and in the evening there was a banquet. The officers were reelected: Edward P. Alexander, of Philadelphia, president; Edward H. Ball, of Chicago, vice president; George H. Blake, No. 28 Ferry street, New York, secretary and treasurer. Mr. Blake has served continuously as secretary since the Association was started. It was voted not to revise the list prices on leather belting, which have been in force since 1901, though the sentiment of the meeting was that it would be proper for belt manufacturers to secure an additional 5 or 10 per cent. on finished belting, on account of the higher prices which they are paying for leather. Such advances as may be made, therefore, will be obtained by changing discounts, by manufacturers acting each for himself.

RUMORED REDUCTIONS ON TABLE OILCLOTHS.

RUMORS have been current in the trade that the independent table oilcloth concerns would make a reduction of 20 cents per yard on all table oilcloth on and after December 1. The so called independent concerns include Thomas Potter, Sons & Co., the Trenton Oilcloth and Linoleum Co., The George W. Blabon Co., and the United Oil Cloth Co. It is understood that the Standard Table Oil Cloth Co. will announce new prices after December 1, but no intimation has been received as to the nature of any change that may be involved. The present prices of the latter company were announced March 1, 1904.

NEW INCORPORATIONS.

BOTTLEHOT Bag Co. (New York), November 11, 1904, under New York laws; capital, \$1000. Directors: H. D. Williams, G. W. Witzell, C. B. Weber, all of New York city. The object is to market sickroom requisites, including the "Bottlehot" water bottle described in THE INDIA RUBBER WORLD, October 1, 1904 (page 17).

=The New Haven Rubber Works, Incorporated, November 10, 1904, under Connecticut laws; capital \$50,000. Incorporators: Frank E. Bradley, Montclair, New Jersey; Ernest D. Steer, New Haven, and George M. Allerton, Waterbury, Connecticut. THE INDIA RUBBER WORLD is advised: "The incorporators will organize early in 1905, at which time a prospectus will be given. The company is not antagonistic but friendly to the Seamless Rubber Co."

=Parquetry Rubber Tile Co. (Jersey City), October 22, 1904, under New Jersey laws; capital, \$300,000. To deal in rubber tiles and other rubber goods. Incorporators: George B. Covington and Bernard G. Heyn, No. 135 Broadway, New York; Nellie R. Green, Elizabeth, N. J.

=Eagle Rubber Cement Co. (Trenton), November 17, 1904, under New Jersey laws; capital authorized \$125,000. Incorporators: Adolph Buller, Emil Buller, Nevin J. Loos. It is proposed to build a factory in Trenton for making rubber cement and shoe dressing.

=Lambert Snyder Vibrator Co., November 21, 1904, under New Jersey laws; capital, \$5000. Incorporators: Stephen G.

Van Derbeck, Hackensack, N. J.; Francis V. Dobbins, Rahway, N. J.; Albert Bruns, Brooklyn, New York. The company will exploit the Snyder Health Vibrator, described in THE INDIA RUBBER WORLD, May 1, 1904 (page 279). Registered office: Hackensack, New Jersey.

=The Oxford Co. (New York), November 3, 1904, under New York laws; capital, \$1000. Directors: T. B. Graham, W. W. Adams, M. A. Peters, all of New York city. The stated object is to deal in rubber goods.

TRADE NEWS NOTES.

THE Milwaukee Rubber Works Co. (Cudahy, Wisconsin) are building an addition to their factory, in the shape of a two story brick building, 125 X 48 feet. The lower floor will be used entirely for their solid vehicle tire work, and the management feel that when it is fully equipped they will have one of the finest vehicle departments in the country. They are also adding a two story building, 30 X 42 feet, to be used as a shipping room and storeroom. The building of these additions has been rendered necessary in order to enable the company properly to take care of their increasing business.

=At a meeting of the board of directors of the India-Rubber and Gutta-Percha Insulating Co. (Yonkers, New York), held October 19, 1904, a dividend of 2½ per cent. on the capital stock was declared, was payable November 1. The last preceding dividend was for 2½ per cent., payable July 11, 1904.

=The Fisk Rubber Co. have removed their branch house at Buffalo, New York, to No. 893 Main street, in that city, where Mr. D. T. Keenan will continue in charge as manager.

=The Buffalo (New York) branch house of the Hartford Rubber Works Co.—James How, manager—has been removed to No. 688 Main street.

=G & J Tire Co. (Indianapolis, Indiana) issue a series of views of automobiles, of leading makes, which have won in recent notable racing contests, the same having been equipped with the company's new "Thread Fabric" tire, described in another column of this Journal.

=The control of the patents for the manufacture and sale of the "Everstick" rubber footwear in the Dominion of Canada has been acquired by the Canadian Rubber Co. of Montreal. The Adams & Ford Co. (Cleveland, Ohio) control these patents for the United States. These rubbers were described in THE INDIA RUBBER WORLD, June 1, 1904 (page 311).

=The Manufactured Rubber Co. (Philadelphia) are reported to be very busy at their rubber reclaiming plant at Metuchen, New Jersey, which of late has been running day and night.

=The Goodyear Rubber Co.'s branch house at Portland, Oregon, has been removed to a new building, at Fourth and Pine streets. The Portland *Oregonian* says: "This to-day is one of the most important of Portland's great wholesale houses. It is one of the largest and best arranged jobbing houses for sale and distribution in the United States."

=Mr. Lloyd L. Libby, for several years connected with the executive offices of the Canadian Rubber Co. of Montreal, has gone to Halifax, Nova Scotia, to manage the same company's extensive sales branch at that place. The territory covered extends from Campbellton, New Brunswick, to the Atlantic Coast, including Newfoundland.

=The factory of the Trenton Oilcloth and Linoleum Co. (Trenton, New Jersey) was damaged by fire on the evening of November 2 to an extent reported at \$40,000, which loss is understood to be fully covered by insurance. The president of the company is George R. Cook, who is also treasurer and general manager of the Eureka Rubber Manufacturing Co. of Trenton, N. J.

=The sale is reported of the premises occupied by the Concord Rubber Co. (Concord Junction, Massachusetts), while that company was in existence, to Charles L. Hill, but the disposition to be made of the property is not stated.

=The board of trade of Lawrence, Massachusetts, has appointed a committee to consider a proposition from Loring M. Monk, of Sharon, Mass., to establish a rubber shoe factory in Lawrence, in the event of a certain amount of local capital being subscribed. Mr. Monk, who was associated formerly with W. L. Sage & Co., jobbers of rubber footwear in Boston, is reported to have secured an option on unused factory premises in Lawrence owned by the American Woolen Co.

=A review of local trade in the Omaha (Nebraska) *Bea* of November 13 says: "The rubber goods trade boomed last week owing to the colder weather and snow that visited many sections in the west. Orders came in by mail, telephone, and telegraph, and jobbers were obliged to work their men overtime to get their orders filled promptly, as all of them were marked 'rush'."

=Referring to the Catasauqua Rubber Co. (East Catasauqua, Pennsylvania), mentioned in the last INDIA RUBBER WORLD, local newspapers report the installation of a steam power plant in the premises to be occupied as a factory.

=The factories of the United States Rubber Co. were closed from Wednesday evening, November 23, until Monday morning November 28, to permit their employes to observe the Thanksgiving holidays, many of them thus having an opportunity to visit relatives at distant places.

=C. J. Bailey & Co. (Boston) have licensed the following firms to manufacture the Bailey "Won't Slip" automobile tires, in "clincher" and single tube patterns: The B. F. Goodrich Co., The Diamond Rubber Co., and The Fisk Rubber Co.

=The Hood Rubber Co. (Boston) have issued a series of five panel pictures which are excellent artistic advertising. Three of them pertain to boots and impress separate views of a deep-water fisherman, a postman, and a farmer; one illustrates the "Pilgrim" heel on a ladies' rubber through the presentment of an attractive young lady, and another shows the Plymouth school shoes on the feet of a typical schoolboy.

=A contract for the supply of 5000 pairs of rubber boots, for the United States army, has been awarded, under a bid received November 15, at the Boston depot of the Quartermaster's department, at \$2.74 per pair.

=Mr. James Morris Carroll, known in Australia, West Africa, and the Far East, has become manager of systems and advertising of the Canadian Rubber Co., of Montreal, and secretary to Mr. D. Lorne McGibbon, general manager of that company. "Morris" Carroll crossed Siberia from St. Petersburg to Port Arthur soon after the Transsiberian railway was completed, and ten years ago was one of the first 500 men to reach Coolgardie, the center of the great West Australian gold rush, where he spent some three years. He has visited Japan twice, and strongly believes that the future of the East as a market for Canadian and American manufactures is one of the coming "good things."

=One of the features of the B. F. Sturtevant Co.'s new office building at Hyde Park, Massachusetts, is the lunch room located in the basement of the building. Arrangements were first made with a caterer to furnish lunches, but the desire for home lunches became so prevalent that the company now hires the help and furnishes lunches at cost.

=Worcester Rubber Co. (Worcester, Massachusetts) were mentioned in the local newspapers as having been damaged by a recent extensive fire in that town. Mr. A. H. Bloss, proprietor of the business, informs THE INDIA RUBBER WORLD that

the fire was confined to neighboring stores, and that his only loss was \$200, due to the flooding of his basement.

=At the state election in New Jersey on November 8, the successful candidate for governor was Edward C. Stokes, who was mentioned in the last INDIA RUBBER WORLD as having been attacked by the Rubber Workers' Union of Trenton on account of his attitude toward the rubber workers' strike last winter, while an officer of one of the rubber manufacturing companies in Trenton. On the morning of election day the newspapers published a "Final Appeal of Rubber Workers," signed by officers of the Trenton union, repeating the attacks upon Mr. Stokes. Prior to that date one Mullaney, a reputed prominent labor unionist, was solicited by the political party opposed to Stoke's election to get at the facts regarding the latter's attitude to the strike, with the result that he (Mullaney) made a report exonerating Stokes. Now Mullaney is being attacked by labor interests, it being asserted that he is not even a member of a union, and that he was working in the interest of Mr. Stokes's election. It is not intimated that the result of the election will be affected by the tempest in a teapot now in progress in labor union circles.

NEW YORK STOCK EXCHANGE TRANSACTIONS.

UNITED STATES RUBBER CO.:

| DATES. | COMMON. | | | PREFERRED. | | |
|---------------------|---------|-------|------|------------|-------|------|
| | Sales. | High. | Low. | Sales. | High. | Low. |
| Week ending Oct. 22 | 12,120 | 30 | 27½ | 2,100 | 85 | 82 |
| Week ending Oct. 29 | 7,080 | 28¾ | 27½ | 2,400 | 84½ | 82 |
| Week ending Nov. 5 | 4,170 | 28¾ | 27½ | 1,700 | 84½ | 83¼ |
| Week ending Nov. 12 | 11,600 | 31½ | 28 | 4,060 | 85½ | 83½ |
| Week ending Nov. 19 | 26,900 | 34½ | 30 | 9,900 | 88 | 85 |
| Week ending Nov. 26 | 12,050 | 34½ | 32½ | 8,105 | 91¾ | 88 |

RUBBER GOODS MANUFACTURING CO.:

| DATES. | COMMON. | | | PREFERRED. | | |
|---------------------|---------|-------|------|------------|-------|------|
| | Sales. | High. | Low. | Sales. | High. | Low. |
| Week ending Oct. 22 | 8,520 | 24 | 22 | 1,035 | 86½ | 85 |
| Week ending Oct. 29 | 3,260 | 23¾ | 22½ | 315 | 85 | 84¾ |
| Week ending Nov. 5 | 3,700 | 23 | 21½ | 600 | 86 | 83 |
| Week ending Nov. 12 | 12,200 | 24¾ | 22½ | 500 | 86 | 86 |
| Week ending Nov. 19 | 17,900 | 25½ | 23¾ | 200 | 87 | 87 |
| Week ending Nov. 26 | 3,000 | 24¾ | 23½ | 750 | 87¾ | 87 |

PERSONAL MENTION.

MR. EDWARD VALENTINE CAREY, a rubber planter from Selangor, Federated Malay States, who was mentioned in Mr. Pearson's recent series of letters from the Far East, has lately been a visitor to the United States, taking occasion to spend a few days at the St. Louis World's Fair. Mr. Carey will spend some time in Europe, and on finally reaching his home in the Malay states will have completed a tour of the globe. Mr. Carey was for seven years chairman of the Selangor Planters' Association, and afterward for four years chairman of the United Planters' Association of the Federated states.

=The Hon. L. D. Apsley, president of the Apsley Rubber Co. (Hudson, Massachusetts), and Mrs. Apsley spent Thanksgiving day with Mr. Apsley's father, George Apsley, at Lock Haven, Pennsylvania, who is 87 years of age. The employes of the Apsley company were not forgotten in the absence of the president, each receiving a handsome card of Thanksgiving greetings, enclosed within which was enough money for the purchase of a turkey.

=Monsieur Alfred Grisar, of Antwerp, who visited the United States recently, crossing the continent and stopping for a few days at the St. Louis World's Fair, on reaching his home during November, completed a two years' tour of the world.

It embraced an experience on the Amazon, an exploration of several rubber producing districts of Africa, and an extended visit to the rubber plantations of Ceylon and the Malay states. While M. Grisar reports many enjoyable experiences during the period mentioned, his tour had business reasons for the motive, since he is destined for membership in the important Antwerp rubber trading firm of Grisar & Co.

=Colonel Louis N. Aymé, for the past year United States consul at Pará, Brazil, is at present at home, on annual leave of absence from his official post.

=It is reported that Colonel Harry E. Converse, president of the Boston Rubber Shoe Co., will erect a \$300,000 business building in Malden, Massachusetts, adjoining the Malden Auditorium, which was built by the Converse family.

OBITUARY NOTES.

ISAAC WALES BUTTERWORTH, founder and chief owner of the Marion Rubber Co. (jobbers of rubber footwear), at Marion, Indiana, and Columbus, Ohio, died in the latter city on October 24, at the age of 68. He is survived by a widow, a daughter, and two sons, the two latter, Albert P. and Gilbert P. Butterworth, having been associated with him in business. Mr. Butterworth was engaged in the wholesale shoe trade in Cincinnati for 35 years, and settled in Columbus five years ago, establishing, with his two sons and H. W. Lushey, the business above mentioned.

=James J. Wilkinson, a retired manufacturer, died at his home in Mount Vernon, New York, on November 7. He was long established at No. 210 Canal street, New York city, until the premises were burned out, in March, 1902. In the days when hard rubber jewelry was in vogue he manufactured goods of this class extensively, buying his material from hard rubber factories; later he devoted his attention to horn and celluloid.

=John A. Gram, formerly local manager, at Portland, Oregon, of the Pacific Coast Rubber Co., died on November 12, of consumption, aged about 42 years. He had a will drawn up the day before, but postponed signing it until next morning, when it was too late.

=Moses Bensinger, president of the Brunswick-Balke-Collender Co. (New York), manufacturers of billiard tables and bar equipment, died on October 14, at French Lick Springs, Indiana. Heart failure, following a slight illness, caused death.

=John E. Thropp, of Trenton, New Jersey, who died suddenly on November 24, was the father of William R. Thropp (Trenton), the work of whose foundry in building machinery for rubber work has made him well known in the trade.

=John Kashaw, for more than 20 years the confidential secretary of all the various rubber corporations which have succeeded one another at Setauket, New York, died of heart failure on November 21, after a brief illness, and was buried at Setauket.

=Joseph B. Bloomingdale, a prominent drygoods merchant of New York, who died on November 21, was the vice president of Combination Rubber and Belting Co. (Bloomfield, New Jersey) for three years, from April, 1901.

AN expectation that India-rubber will become an important product of the Egyptian Sudan is indicated by the action of the government in making regulations in regard to it. The official *Sudan Gazette* (September 1, 1904) publishes an ordinance fixing a "royalty" of not more than 20 nor less than 10 per cent., *ad valorem*, on crude rubber coming from any part of the district, on a fixed valuation to be announced from time to time by the government. For the present the maximum rate will be levied, and the value fixed is £10 Egyptian per *kantar* [= \$50.38½ per 100 pounds].

A CARD FROM MESSRS. PIRELLI & CO.

TO THE EDITOR OF THE INDIA RUBBER WORLD: We note in the November issue of THE INDIA RUBBER WORLD an extract of the paper read by our Mr. E. Jona at the International Electrical Congress at St. Louis on "Insulating Material in High Tension Cables." Also, under the heading "The Italian Trade" (page 40), we note our name favorably mentioned, and for all this we beg to tender best thanks. With reference, however, to the above mentioned paragraph on Italian trade, we wish to call your attention to a few statements therein contained which are evidently due to some misapprehension.

We do not think there is any important rubber article which is not manufactured by us, with the exception of rubber shoes; but anyhow, even if there is, this is certainly not due to any fiscal reason, as the Italian import tax is the same for all rubber articles of a single group, and there certainly is no whole group of articles which is not manufactured here.

As to tires, the duty on them has never been altered and was, from the first day, 60 centimes per kilo (less than 6 cents per pound). As you see, it is certainly no prohibitive tariff. Elastic thread we manufactured since 1880, and our yearly production so far exceeds the requirements of the home market that we have always done a large export trade all over Europe.

It may interest you to know that the cable specially manufactured by us for 50,000 volts working pressure, to which our Mr. Jona alluded in his paper, was tested in our works up to 150,000 volts without any break in the insulation.

We do not doubt that you will take these remarks of ours into consideration, and again thanking you, we remain, dear Sir, Yours truly,

PIRELLI & CO.

Milan, Italy, November 18, 1904.

AN OLD COMB FACTORY CLOSED.

THE manufacture of combs in America was begun by Enoch Noyes, in a very crude way, at West Newbury, Massachusetts, some time prior to the revolutionary war. After the surrender of Burgoyne, in 1777, a Hessian soldier who had belonged to his forces, and who had worked at comb making in

his native land, entered the employ of Noyes, who profited from the skill of the soldier, and from some tools in the latter's knapsack. The comb factory became very important, in time, and the industry was taken up by others, until West Newbury came to have no fewer than 33 comb shops. The factory established by Noyes remained in the family, and in 1855 was operated under the style of S. C. Noyes & Co., when Somerby N. Noyes, a great grandson of the founder of the business, became a member of the firm. On October 22, 1904, Somerby Noyes, who had become the sole owner of the factory, died in a Boston hospital, and on that day the factory closed. The business is to be continued, however, having been purchased, one month prior to Mr. Noyes's death, by the W. H. Noyes & Brother Co., who will combine it with their comb factory at Newburyport, Mass. Somerby N. Noyes was born March 14, 1836, and invented a number of machines for the development of the horn comb industry, but on account of the introduction of India-rubber, celluloid, and other materials for combs, the line of manufacture to which he was devoted has become relatively less important.

A QUART OF RUBBER SYRUP.

ANDREW JACKSON BANTA, for fifty-seven years a shoe clerk in a store in Rochester, N. Y., in commenting the other day on rubber prices [says *The Shoe Retailer*], recalled the interesting fact that when he first began life as a shoe clerk the rubbers worn were of pure gum, and the soles were a half inch thick.

"I can remember that they looked just like blocks of wood," said Mr. Banta. "They came stuffed with hay or seagrass. This we had to pull out and insert a last instead. After being placed on the last we would varnish them and place them on the shelves for sale. One day a man came into the store and put his feet upon the fender of the stove. The fire was hot, and after a while he began to smell something burning. Taking his feet from the stove he found that the rubber had melted and that about a quart of pure gum had formed a pool under the stove. Just think of all the rubbers one quart of pure gum would supply nowadays."

REVIEW OF THE CRUDE RUBBER MARKET.

WE have again to report higher prices for crude rubber, of all sorts, than have ever before been quoted in these columns. A higher tendency has prevailed throughout the past month, with the result that Islands fine Pará now figures at 13 cents higher than at the beginning of November and Upriver at 14 cents—for new crop. Even higher prices have been reported than appear in the tables below. Madeira fine has been sold to arrive at \$1.31. One importing house reports: "We have sold in a very moderate way at \$1.30, and hear reports of \$1.31@1.32." The unprecedented price of \$1 is reported for African rubber and sales are believed to have been made at even higher rates. Although arrivals at New York have been liberal, stocks remain exceptionally small.

All indications point to still higher prices, especially if the winter should prove of such a character as to stimulate largely the production of rubber footwear.

Arrivals at Pará (including Caucho), at last advices, compare with the same months of previous years as follows:

| | 1901. | 1902. | 1903. | 1904. |
|---------------------------|--------|-------|-------|--------|
| July | 1260 | 1290 | 1280 | 1240 |
| August | 1290 | 1370 | 1230 | 1250 |
| September | 1940 | 1670 | 2010 | 1810 |
| October | 2640 | 2280 | 2440 | 2460 |
| November | 2970 | 2650 | 2980 | a 2320 |
| Total, five months | 10,100 | 9260 | 9940 | 9430 |
| [a To November 28, 1904.] | | | | |

NEW YORK RUBBER PRICES FOR OCTOBER (NEW RUBBER).

| | 1904. | 1903. | 1902. |
|-----------------------|-----------|-----------|--------|
| Upriver, fine | 1.12@1.17 | 1.00@1.09 | 74 @79 |
| Upriver, coarse | 86@ 90 | 82@ 91 | 60 @64 |
| Islands, fine | 1.09@1.14 | 96@1.06 | 72 @74 |
| Islands, coarse | 61@ 65 | 56@ 68 | 46 @49 |
| Cametá, coarse | 61@ 65 | 56@ 67 | 47 @49 |

In regard to the financial situation, Albert B. Beers (broker in India-rubber, No. 68 William street, New York) advises us:

"During November there has been a fairly good demand for paper at rates ruling about the same as in October, namely 5 @ 6½ per cent. for the various grades of rubber notes, though early in the month rates were somewhat easier, and transactions were made at 4½ per cent."

Following is a statement of prices of Pará grades, one year ago, one month ago, and on November 30—the current date.

| PARÁ. | Dec. 1, '03. | Nov. 1, '04. | Nov. 30. |
|------------------------------|--------------|--------------|-----------|
| Islands, fine, new..... | 92@ 93 | 112@113 | 125@126 |
| Islands, fine, old..... | @ | none here | none here |
| Upriver, fine, new..... | 95@ 96 | 115@116 | 129@130 |
| Upriver, fine, old..... | 97@ 98 | none here | none here |
| Islands, coarse, new..... | 55@ 56 | 64@ 65 | 72@ 73 |
| Islands, coarse, old..... | @ | none here | none here |
| Upriver, coarse, new..... | 79@ 80 | 88@ 89 | 96@ 97 |
| Upriver, coarse, old..... | @ | none here | none here |
| Caucho (Peruvian) sheet..... | 60@ 61 | 67@ 68 | 71@ 72 |
| Caucho (Peruvian) ball..... | 71@ 72 | 77@ 78 | 82@ 83 |

The market for other sorts in New York, shows an important advance on all grades, as follows:

| AFRICAN. | CENTRALS. |
|--------------------------------|-------------------------|
| Sierra Leone, 1st quality..... | Esmeralda, sausage..... |
| Massai, red..... | Guayaquil, strip..... |
| Benguella..... | Nicaragua, scrap..... |
| Cameroon ball..... | Panama, slab..... |
| Accra flake..... | Mexican, scrap..... |
| Lopori ball, prime..... | Mexican, slab..... |
| Lopori strip, prime..... | Mangabeira, sheet..... |
| Ikelemba..... | EAST INDIAN. |
| Madagascar, pinky..... | Assam..... |
| | Borneo..... |

Late Pará cables quote:

| | Per Kilo. | Per Kilo. |
|----------------------|-------------------------------|----------------------|
| Islands, fine..... | 75500 | Upriver, fine..... |
| Islands, coarse..... | 38900 | Upriver, coarse..... |
| | Exchange, 12 $\frac{1}{2}$ d. | |

Last Manáos advices:

| | | |
|--------------------|-------------------------------|----------------------|
| Upriver, fine..... | 83600 | Upriver, coarse..... |
| | Exchange, 12 $\frac{1}{2}$ d. | |

Statistics of Para Rubber (Excluding Caucho).

| | NEW YORK. | | | | |
|---------------------------|------------------|---------|-------------|-------------|-------------|
| | Fine and Medium. | Coarse. | Total 1904. | Total 1903. | Total 1902. |
| Stocks, September 30..... | 38 | 6 | 44 | 97 | 108 |
| Arrivals, October..... | 670 | 410 | 1080 | 868 | 893 |
| Aggregating..... | 708 | 416 | 1124 | 965 | 1091 |
| Deliveries, October..... | 703 | 412 | 1115 | 883 | 917 |
| Stocks, October 31..... | 5 | 4 | 9 | 82 | 174 |

| | PARÁ. | | | | |
|--------------------------|-------|-------|-------|-------|-------|
| | 1904. | 1903. | 1902. | 1904. | 1903. |
| Stocks, Sept. 30..... | 373 | 240 | 86 | 218 | 240 |
| Arrivals, October..... | 2660 | 2381 | 2300 | 793 | 995 |
| Aggregating..... | 3033 | 2621 | 2386 | 1011 | 1235 |
| Deliveries, October..... | 2868 | 2276 | 2241 | 900 | 800 |
| Stocks, October 31..... | 165 | 345 | 145 | 111 | 435 |

| | 1904. | 1903. | 1902. |
|--|-------|-------|-------|
| World's visible supply, October 31..... | 1921 | 2372 | 3038 |
| Para receipts, July 1 to October 31..... | 6611 | 6400 | 6179 |
| Para receipts of Caucho, same dates..... | 499 | 1484 | 431 |
| Afloat from Pará to United States, October 31..... | 736 | 700 | 554 |
| Afloat from Pará to Europe, October 31..... | 900 | 810 | 915 |

Rubber Receipts at Manaos.

DURING October and four months of the crop season for three years [courtesy of Messrs. Witt & Co.]:

| FROM— | 1904. | 1903. | 1902. | 1904. | 1903. | 1902. |
|-------------------------|-------|-------|-------|-------|-------|-------|
| Rio Purús..... | 288 | 215 | 431 | 1197 | 1101 | 1199 |
| Rio Madeira..... | 361 | 254 | 160 | 1033 | 1009 | 894 |
| Rio Jurua..... | 190 | 158 | 38 | 405 | 414 | 269 |
| Rio Javary—Iquitos..... | 575 | 581 | 153 | 856 | 766 | 308 |
| Rio Solimões..... | 72 | 99 | 282 | 114 | 183 | 445 |
| Rio Negro..... | 15 | 2 | 4 | 18 | 17 | 69 |
| Total..... | 1501 | 1309 | 1068 | 3623 | 3490 | 3184 |
| Caucho..... | 116 | 87 | 62 | 334 | 428 | 321 |
| Total..... | 1617 | 1396 | 1130 | 3957 | 3918 | 3505 |

London.

EDWARD TILL & Co. [November 1] report stocks:

| | 1904. | 1903. | 1902. |
|----------------------------|-------|-------|-------|
| LONDON { Pará sorts..... | 30 | 20 | 115 |
| { Borneo..... | 4 | 4 | 4 |
| { Assam and Rangoon..... | 498 | 199 | 319 |
| { Other sorts..... | 532 | 223 | 438 |
| Total..... | 111 | 435 | 1237 |
| LIVERPOOL { Caucho..... | 140 | 51 | 82 |
| { Other sorts..... | 524 | 476 | 580 |
| Total, United Kingdom..... | 1307 | 1185 | 2337 |
| Total, October 1..... | 1666 | 866 | 2464 |
| Total, September 1..... | 1508 | 1364 | 2731 |
| Total, August 1..... | 1764 | 1781 | 3053 |
| Total, July 1..... | 1920 | 2285 | 3595 |
| Total, June 1..... | 1667 | 2248 | 3687 |

PRICES PAID DURING OCTOBER.

| | 1904. | 1903. | 1902. |
|--------------------------|----------------------|----------------------|---------------------|
| Pará fine, hard..... | 4/ 0 1/2 @ 4/ 11 3/4 | 4/ 2 1/2 @ 4/ 5 | 3/ 1 3/4 @ 3/ 3 3/4 |
| Do soft..... | 4/ 8 1/2 @ 4/ 10 3/4 | 4/ 0 1/2 @ 4/ 7 1/2 | 3/ 0 1/2 @ 3/ 1 1/2 |
| Negroheads, scrappy..... | 3/ 8 1/2 @ 3/ 9 1/2 | 3/ 5 @ 3/ 8 1/2 | 2/ 7 @ 2/ 8 1/2 |
| Do Cameté..... | 2/ 8 1/4 @ 2/ 9 1/4 | 2/ 5 1/4 @ 2/ 10 1/4 | 2/ 2/ |
| Bolivian..... | 4/ 10 @ 4/ 11 | No sales | 3/ 3 @ 3/ 4 |
| Caucho, ball..... | 3/ 3 @ 3/ 5 | 3/ 5 @ 3/ 7 1/2 | 2/ 6 @ 2/ 6 1/2 |
| Do slab..... | 2/ 0 1/2 @ 2/ 10 1/2 | 2/ 9 @ 2/ 10 1/2 | 2/ 1 1/2 @ 2/ 2 1/2 |
| Do tails..... | 2/ 9 @ 3/ | No sales | 2/ 5 1/4 |

NOVEMBER 11.—The market has continued active, with an advance of 2d. per pound within a week. Sales of fine hard cure spot and November delivery at 5s. @ 5s. 1d. [= \$1.23 3/4]; December-January at 4s. 9 1/4 d. @ 4s. 11d.; January-February, 4s. 9 1/4 d. @ 4s. 10 1/2 d.; February-March, 4s. 8 3/4 d. @ 4s. 10d.; March-April, 4s. 8 1/2 d. Large sales of soft cure for November delivery at 4s. 11d. @ 4s. 11 1/2 d. Bolivian fine quoted at 5s. 1 1/2 d. A large business done in mediums, at firmer prices.

At to-day's auctions large supplies met a good demand at full to dearer rates. Cartagena good black scrap and roll 3s. 4 1/2 d.; fair clean white sheet 3s. @ 3s. 1d. Madagascar fair pinky rather mixed 3s. 2 1/2 d.; good Majunga 2s. 8d. @ 2s. 8 1/2 d.; Mozambique good to fine stickless sausage 3s. 10d. @ 4s.; fair to good Lamu ball 3s. 4d. @ 3s. 5d.; Assam, good red, 3s. 7 1/2 d.

PLANTATION RUBBER (FROM PARÁ SEED).

October 14 Auction.—Eight cases Straits offered and sold; fine biscuits at 5s. 4d. to 5s. 4 1/2 d.; thick ditto rather immature, at 5s. Two cases fine Ceylon biscuits sold at 5s. 4d.

October 28 Auction.—Ceylon: Twenty-one cases offered and 20 sold; fine biscuits at 5s. 6d. to 5s. 7d.; good scrap at 4s. 5d. to 4s. 6 1/2 d.

November 11 Auction.—Twenty-eight packages Ceylon and Straits offered and sold. Fine thin Ceylon biscuits, part dark, at 5s. 8 1/4 d. to 5s. 9 1/4 d.; fine dark and pale Straits biscuits at 5s. 8d.; fair to good scrap at 4s. 4d. to 4s. 6 1/2 d. [The highest price paid this date is equal to \$1.40 3/4 per pound. The highest price named for regular Pará rubber, same date, is 5s. 1d. = \$1.23 3/4].

Liverpool.

WILLIAM WRIGHT & Co., report [November 1]:

Fine Pará.—With normal receipts in Pará, small stocks in Europe and America, and a good demand from the latter country, the market has been active, both spot and forward, and prices are fully 2 1/2 d. per pound dearer since the beginning of the month; there is rather more

Rubber Scrap Prices.

NEW YORK quotations—prices paid by consumers for car-load lots, in cents per pound—show a slight advance over the figures last reported, as follows:

| | |
|--|---------------|
| Old Rubber Boots and Shoes—Domestic..... | 5 1/4 @ 6 |
| Do —Foreign..... | 5 1/4 @ 5 1/2 |
| Pneumatic Bicycle Tires..... | 3 1/2 @ 4 |
| Solid Rubber Wagon and Carriage Tires..... | 6 |
| White Trimmed Rubber..... | 8 1/2 @ 8 3/4 |
| Heavy Black Rubber..... | 4 |
| Air Brake Hose..... | 2 1/2 @ 2 3/4 |
| Fire and Large Hose..... | 2 @ 2 1/4 |
| Garden Hose..... | 1 3/4 @ 1 1/2 |
| Matting..... | 3/4 @ 1 |

disposition to sell at the close, and importers and dealers would be only too glad to see a substantial reduction in prices, but unless the crop shows a large percentage of increase on last season, with the present—and likely to be continued—active demand, added to the extremely small stock available and, generally speaking, the paucity of stock held by manufacturers, we must be prepared to see a very high level of values right through the season. Doubtless this may be and is a matter of regret, but it is a contingency that must be faced.

African.—The market has been better during the month, in sympathy with Pará grades, and a large business has been done, especially in Cape Coast selected lumps at $1\frac{1}{2}d.$ advance, and red Sierra Leone shows $1d.$ advance, closing firm, sellers; Cape Coast lumps $2s. 1\frac{1}{2}d.$ spot, and $2s. 1d.$ forward, and red Sierra Leone forward sellers $3s. 10\frac{1}{2}d.$

Bordeaux.

PRICES NOVEMBER 11 (FRANCS PER KILOGRAM).

| | | | |
|-------------------------------------|-------------|----------------------|-------------|
| Soudan niggers | 9. @ 9.70 | Cassamance, A. | 7.50 @ 7.65 |
| Soudan twists | 8.25 @ 8.75 | Cassamance, A. M. .. | 6.50 @ 6.60 |
| Conakry niggers, red. 10.25 @ 10.45 | | Madagascar : | |
| Lahou cakes | 7.30 @ 7.50 | Twists | 4.25 @ 7.25 |
| Lahou twists | 8.50 @ 8.60 | Majunga | 7. @ 7.25 |
| Lahou niggers | 8.10 @ 9.30 | Tamatave | 8. @ 9.10 |

STOCKS NOVEMBER 11 (KILOGRAMS).

| | | | |
|----------------------|--------|--------------------|--------|
| Soudan twists | 13,532 | Bassam cakes | 236 |
| Soudan niggers | 19,544 | Madagascar | 4,700 |
| Lahou niggers | 9,450 | Other sorts | 650 |
| Lahou cakes | 400 | Balata | 2,000 |
| Sumatra | 3,600 | | |
| Bassam niggers | 4,056 | Total | 58,168 |

R. HENRY.

Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The tendency of the inscription sale on November 11 was a higher one, in consequence of the latest reports from the English and Pará markets. Participation was general and animated, the whole amount exposed, 384 tons, finding buyers—with the exception of 10 tons—at figures showing an average increase of 40 per cent., or 4 @ $4\frac{1}{2}$ per cent., over estimations. The highest prices were paid for the Upper Congo sorts, which usually are taken for the United States. The principal lots sold were:

| | Estimations. | Sold at. |
|----------------------------------|--------------|---------------|
| 21 tons Equateur | 10.50 | 11.35 @ 11.45 |
| 22 " Mongalla black strips | 9.50 | 10.12½ |
| 13 " Mongalla red pieces | 10. | 10.75 |
| 5 " Loporé I. | 10.25 | 10.77½ |
| 14 " Loporé II. | 6.75 | 6.77½ @ 7. |
| 20 " Uelé strips | 9.75 | 10.12½ |
| 19 " Congo Sangha | 8.72½ | 9.05 |
| 23 " Upper Congo balls | 10. | 10.50 |
| 10 " Red Congo sausages | 10. | 10.35 |
| 10 " Congo M' Poko | 10.30 | 10.75 |

The next large sale by inscription will take place on December 16, at which time about 600 tons will be exposed. Sales since November 1 have amounted to about 400 tons. Stocks in first hands now amount to 617 tons, of which 331 tons arrived on November 7, by the steamer *Philippeville*.

C. SCHMID & CO.

Antwerp, Belgium, November 14, 1904.

RUBBER ARRIVALS AT ANTWERP.

Nov. 8.—By the *Philippeville*, from the Congo:

| | | |
|------------------|------------------------------------|--------|
| Bunge & Co. | (Société Générale Africaine) kilos | 97,000 |
| Do |(Société Anversoise) | 30,000 |
| Do |(Sultanats du Haut Obangi) | 13,000 |
| Do |(Chemins de fer Grand Lacs) | 4,000 |

PARA RUBBER VIA EUROPE.

| | POUNDS. |
|---|--------------|
| Oct. 29.—By the <i>Campania</i> =Liverpool: | |
| George A. Alden & Co. (Fine) | 17,000 |
| A. T. Morse & Co. (Coarse) | 4,500 21,500 |
| Nov. 3.—By the <i>Cedric</i> =Liverpool: | |
| Poel & Arnold (Cauchó) | 24,000 |
| Nov. 5.—By the <i>La Touraine</i> =Havre: | |

| | |
|--|--------------|
| Poel & Arnold. (Cauchó) | 16,000 |
| Nov. 7.—By the <i>Etruria</i> =Liverpool: | |
| Poel & Arnold—(Cauchó) | 45,000 |
| A. T. Morse & Co. (Fine) | 4,000 49,000 |
| Nov. 7.—By the <i>Minneapolis</i> =London: | |
| Poel & Arnold (Coarse) | 4,500 |
| Nov. 8.—By the <i>Mensanarres</i> =Ciudad Bolívar: | |
| Thebaud Brothers (Coarse) | 2,500 |

| | |
|---|--------------|
| Nov. 17.—By the <i>Victoria</i> =Liverpool: | |
| Poel & Arnold (Coarse) | 22,500 |
| Poel & Arnold (Medium) | 5,500 28,000 |
| Nov. 17.—By the <i>Majestic</i> =Liverpool: | |
| Poel & Arnold (Cauchó) | 11,500 |
| Rubber Trading Co. (Cauchó) | 4,500 16,000 |
| Nov. 23.—By the <i>Tucatan</i> =Colon: | |
| Chicago Bolivian Rubber Co. (Fine) | 30,000 |

| | | |
|---------------------------------------|----------------------------|-------------|
| Bunge & Co. | (Société "La Kotto") | 2,000 |
| Do |(Société Isanghi) | 1,000 |
| Société Coloniale Anversoise | (Cie. de Lomani) | 3,000 |
| Do |(Belge du Haut Congo) | 10,000 |
| Do |(Süd Kamerun) | 9,000 |
| Do |(Cie. du Kasai) | 80,000 |
| Société A B I R | | 43,000 |
| Comptoir Commercial Congolais | | 9,000 |
| Société Equatoriale Congolaise | (Société L'Ikelemba) | 1,000 |
| M. S. Col. |(Société Baniembe) | 1,000 |
| Comptoir des Produits Coloniaux | | |
|(Ekela Kadel Sangha) | | 27,000 |
| Charles Dethier | (Société Belgika) | 1,000 |
| Do |(La M' Poko) | 500 331,500 |

ANTWERP RUBBER STATISTICS FOR OCTOBER.

| DETAILS. | 1904. | 1903. | 1902. | 1901. | 1900. |
|--------------------------|-----------|-----------|-----------|-----------|-----------|
| Stocks, Sept. 30. kilos | 804,482 | 421,858 | 456,711 | 896,143 | 1,004,762 |
| Arrivals in October .. | 363,490 | 944,274 | 340,508 | 234,635 | 470,028 |
| Congo sorts | 293,995 | 863,240 | 306,228 | 191,178 | 431,917 |
| Other sorts | 69,595 | 81,034 | 34,270 | 43,457 | 38,111 |
| Aggregating | 1,167,972 | 1,366,132 | 797,309 | 1,130,778 | 1,474,790 |
| Sales in October | 457,112 | 489,495 | 447,171 | 864,673 | 565,743 |
| Stocks, Oct. 31. | 710,860 | 876,637 | 350,138 | 266,105 | 909,047 |
| Arrivals since Jan. 1 .. | 4,845,311 | 4,726,430 | 4,369,518 | 4,960,761 | 5,054,406 |
| Congo sorts | 3,995,454 | 4,777,003 | 4,031,632 | 4,574,034 | 4,298,063 |
| Other sorts | 849,857 | 449,427 | 337,886 | 386,727 | 756,343 |
| Sales since Jan. 1. | 4,745,351 | 4,507,898 | 4,434,089 | 5,308,605 | 4,437,440 |

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

November 4.—By the steamer *Boniface*, from Manáos and Pará:

| IMPORTERS. | Fine. | Medium. | Coarse. | Cauchó. | Total. |
|------------------------------|---------|---------|---------|---------|---------|
| Poel & Arnold | 121,000 | 25,600 | 112,500 | 2,100 | 261,200 |
| New York Commercial Co. | 111,000 | 13,100 | 32,400 | 700 | 157,200 |
| A. T. Morse & Co. | 52,900 | 6,400 | 77,600 | 3,900 | 140,800 |
| General Rubber Co. | 82,700 | 12,000 | 17,200 | ..... | 111,900 |
| Hagemeyer & Brunn | 21,500 | 1,400 | 3,200 | ..... | 26,100 |
| Edmund Reeks & Co. | 6,600 | ..... | 10,900 | ..... | 17,500 |
| Lionel Hagenars & Co. | 12,300 | ..... | 1,400 | ..... | 13,700 |
| Wallace L. Gough. .... | ..... | ..... | 8,800 | ..... | 8,800 |
| Total | 408,000 | 58,500 | 264,000 | 6,700 | 737,200 |

November 14.—By the steamer *Cearense*, from Manáos and Pará:

| | | | | | |
|---------------------------------|---------|--------|---------|--------|---------|
| New York Commercial Co. | 162,600 | 17,200 | 93,800 | ..... | 273,600 |
| Poel & Arnold | 138,600 | 12,000 | 111,200 | 5,900 | 267,700 |
| A. T. Morse & Co. | 42,800 | 7,400 | 56,000 | ..... | 106,200 |
| General Rubber Co. | 75,900 | 12,000 | 8,600 | 5,500 | 102,000 |
| Lionel Hagenars & Co. | 15,200 | ..... | 900 | ..... | 16,100 |
| Hagemeyer & Brunn | 13,600 | ..... | 2,400 | ..... | 16,000 |
| Wallace L. Gough. .... | ..... | ..... | 7,600 | ..... | 7,600 |
| Safety Ins. Wire Cable Co. | 5,900 | 1,400 | 300 | ..... | 7,600 |
| Total | 454,600 | 50,000 | 280,800 | 11,400 | 796,800 |

November 25.—By the steamer *Camelense*, from Manáos and Pará:

| | | | | | |
|------------------------------|---------|---------|---------|-------|-----------|
| Poel & Arnold | 262,500 | 38,200 | 111,800 | 2,700 | 415,200 |
| New York Commercial Co. | 231,300 | 25,300 | 104,700 | 4,200 | 365,500 |
| General Rubber Co. | 204,700 | 41,000 | 64,600 | 2,000 | 312,300 |
| A. T. Morse & Co. | 11,700 | 2,100 | 65,400 | ..... | 79,200 |
| Edmund Reeks & Co. | 47,500 | 3,700 | 8,800 | ..... | 60,000 |
| Hagemeyer & Brunn | 14,800 | 4,300 | 4,200 | ..... | 23,300 |
| Lionel Hagenars & Co. | 20,300 | ..... | 2,100 | ..... | 22,400 |
| Thomsen & Co. | 13,900 | ..... | 1,400 | ..... | 15,300 |
| Total | 806,700 | 114,600 | 363,000 | 8,900 | 1,293,200 |

[NOTE.—The steamer *Amazonense*, from Pará, is due at New York on December 5, with 525 tons Rubber.]

OTHER ARRIVALS IN NEW YORK

CENTRALS.

| | POUNDS. |
|---|---------|
| OCT. 26.—By the <i>Yucatan</i> =Colon: | |
| G. Amsinck & Co. | 14,300 |
| Lawrence Johnson & Co. | 12,800 |
| Hirzel, Feltman & Co. | 11,200 |
| Dumarest Bros. & Co. | 7,300 |
| A. Santos & Co. | 5,500 |
| J. A. Medina & Co. | 4,000 |
| E. B. Strout | 5,500 |
| Roldan & Van Sickle | 4,400 |
| Eggers & Heinlein | 2,800 |
| Otto Gerdall | 2,300 |
| Smithers, Nordenholt & Co. | 2,200 |
| American Trading Co. | 1,000 |
| Meyer & Hecht | 800 |
| A. Rosenthal & Sons | 700 |
| Isaac Brandon & Bros. | 700 |
| R. G. Barthold | 200 |
| | 77,500 |
| OCT. 27.—By the <i>Patricia</i> =Hamburg: | |
| A. T. Morse & Co. | 2,200 |
| OCT. 28.—By the <i>El Cid</i> =New Orleans: | |
| A. T. Morse & Co. | 9,000 |
| Manhattan Rubber Mfg. Co. | 6,500 |
| G. Amsinck & Co. | 2,500 |
| | 18,000 |
| OCT. 26.—By the <i>Terence</i> =Bahia: | |
| J. H. Rossbach & Bros. | 4,500 |
| OCT. 29.—By the <i>Havana</i> =Mexico: | |
| H. Marquardt & Co. | 1,500 |
| Fred Probst & Co. | 1,500 |
| Harburger & Stack | 1,500 |
| E. Steiger & Co. | 1,000 |
| Isaac Kuble & Co. | 300 |
| E. N. Tibbals & Co. | 300 |
| | 6,100 |
| NOV. 2.—By the <i>Carib II</i> =Truxillo, etc. | |
| Eggers & Heinlein | 7,300 |
| A. S. Lascellas & Co. | 1,200 |
| H. W. Peabody & Co. | 500 |
| | 9,000 |
| NOV. 2.—By the <i>Alliance</i> =Colon: | |
| Hirzel, Feltman & Co. | 12,400 |
| G. Amsinck & Co. | 4,500 |
| Piza Nephews & Co. | 3,000 |
| Gabriel Perigault | 1,500 |
| American Trading Co. | 2,900 |
| E. B. Strout | 900 |
| A. Rosenthal's Sons | 700 |
| Meyer Hecht | 400 |
| H. Marquardt & Co. | 400 |
| Fred Probst & Co. | 300 |
| | 26,100 |
| NOV. 4.—By the <i>Flandria</i> =Santa Maria, etc. | |
| A. Held | 3,500 |
| Isaac Kuble & Co. | 2,500 |
| American Trading Co. | 2,300 |
| | 8,300 |
| NOV. 2.—By the <i>Siberia</i> =Port Limon, etc.: | |
| A. Held | 4,500 |
| D. A. De Lima & Co. | 2,000 |
| Isaac Brandon & Bros. | 2,200 |
| United Fruit Co. | 2,000 |
| Andreas & Co. | 700 |
| Lawrence Johnson & Co. | 500 |
| G. Amsinck & Co. | 700 |
| | 12,600 |
| NOV. 5.—By the <i>Cervantes</i> =Bahia: | |
| Hirsch & Kaiser | 7,000 |
| NOV. 7.—By the <i>Etruria</i> =Liverpool: | |
| J. H. Rossbach & Bros. | 32,000 |
| George A. Alden & Co. | 4,500 |
| | 36,500 |
| NOV. 10.—By the <i>Cavour</i> =Bahia: | |
| J. H. Rossbach & Bros. | 16,000 |
| NOV. 11.—By the <i>El Siglo</i> =New Orleans: | |
| A. N. Rotholz | 2,000 |
| G. Amsinck & Co. | 1,500 |
| | 3,500 |
| NOV. 12.—By the <i>Esperanza</i> =Mexico: | |
| E. Steiger & Co. | 1,200 |
| Harburger & Stack | 1,000 |
| H. Marquardt & Co. | 1,000 |
| Graham, Hinkley & Co. | 800 |
| | 4,000 |
| NOV. 14.—By the <i>Comus</i> =New Orleans: | |
| A. T. Morse & Co. | 7,500 |
| Manhattan Rubber Mfg. Co. | 6,000 |
| T. N. Morgan | 1,500 |
| A. N. Rotholz | 3,500 |
| | 18,500 |
| NOV. 17.—By the <i>Adance</i> =Colon: | |
| Hirzel, Feltman & Co. | 12,700 |
| G. Amsinck & Co. | 9,600 |
| E. B. Strout | 5,900 |
| Gabriel Perigault | 3,700 |
| J. A. Medina & Co. | 2,600 |
| H. Marquardt & Co. | 1,000 |
| Meyer Hecht | 600 |
| DeSola & Pardo | 700 |
| Smithers, Nordenholt & Co. | 700 |
| Silva, Buenenius & Co. | 300 |
| Jimenez & Escobar | 300 |
| | 47,100 |
| NOV. 19.—By the <i>Matanzas</i> =Mexico: | |
| L. N. Chemedin & Co. | 1,500 |
| Fred Probst & Co. | 1,000 |
| H. Marquardt & Co. | 800 |
| Cia Mexico Commiso. | 800 |
| Havre, etc. | 28,000 |
| | 31,800 |

CENTRALS.—Continued.

| | |
|---|--------|
| NOV. 21.—By the <i>Tennyson</i> =Bahia, etc.: | |
| Hirsch & Kaiser | 7,000 |
| A. D. Hitch & Co. | 4,000 |
| J. H. Rossbach & Bros. | 6,500 |
| | 17,500 |
| NOV. 21.—By the <i>Umbria</i> =Liverpool: | |
| J. H. Rossbach & Bros. | 16,000 |
| Poel & Arnold | 16,000 |
| | 32,000 |
| NOV. 23.—By the <i>Finance</i> =Colon: | |
| Lawrence Johnson & Co. | 3,600 |
| Dumarest Bros. & Co. | 3,600 |
| A. Santos & Co. | 2,800 |
| Gabriel Perigault | 2,300 |
| Isaac Brandon & Bros. | 2,000 |
| Hirzel, Feltman & Co. | 1,400 |
| Jimenez & Escobar | 1,100 |
| Frame & Co. | 1,000 |
| Roldan & Van Sickle | 1,100 |
| | 18,800 |
| NOV. 23.—By the <i>Yucatan</i> =Colon: | |
| Hirzel, Feltman & Co. | 26,500 |
| G. Amsinck & Co. | 20,000 |
| Dumarest & Co. | 4,900 |
| Roldan & Van Sickle | 4,000 |
| Lawrence Johnson & Co. | 4,000 |
| J. A. Medina & Co. | 3,900 |
| A. Santos & Co. | 3,000 |
| A. M. Capens Sons | 3,000 |
| Isaac Brandon & Bros. | 2,600 |
| Gabriel Perigault | 1,300 |
| John Dunn Sons Co. | 1,400 |
| W. R. Grace & Co. | 1,500 |
| A. Rosenthal's Sons | 1,500 |
| Eggers & Heinlein | 1,500 |
| | 79,200 |

AFRICANS.

| | POUNDS. |
|--|---------|
| OCT. 25.—By the <i>Kroonland</i> =Antwerp: | |
| Poel & Arnold | 23,500 |
| A. T. Morse & Co. | 14,000 |
| Joseph Cantor | 8,000 |
| Winter & Smillie | 22,500 |
| | 68,000 |
| OCT. 25.—By the <i>Statendam</i> =Rotterdam: | |
| A. T. Morse & Co. | 14,000 |
| OCT. 27.—By the <i>Patricia</i> =Hamburg: | |
| A. T. Morse & Co. | 14,500 |
| George A. Alden & Co. | 2,500 |
| Wallace L. Gough | 2,000 |
| Earle Brothers | 2,500 |
| | 21,500 |
| OCT. 27.—By the <i>Carpathia</i> =Liverpool: | |
| George A. Alden & Co. | 30,000 |
| OCT. 28.—By the <i>Battle</i> =Liverpool: | |
| General Rubber Co. | 80,000 |
| OCT. 29.—By the <i>Campania</i> =Liverpool: | |
| George A. Alden & Co. | 20,000 |
| Poel & Arnold | 4,000 |
| Windmuller & Reolker | 2,500 |
| | 26,500 |
| OCT. 29.—By the <i>Philadelphia</i> =London: | |
| George A. Alden & Co. | 33,000 |
| Wallace L. Gough | 6,500 |
| Robinson & Tallman | 7,000 |
| | 46,500 |
| OCT. 31.—By the <i>Zeeland</i> =Antwerp: | |
| George A. Alden & Co. | 185,000 |
| Poel & Arnold | 170,000 |
| A. T. Morse & Co. | 25,000 |
| Joseph Cantor | 5,000 |
| Rubber Trading Co. | 5,000 |
| | 391,000 |
| OCT. 31.—By the <i>Georgie</i> =Liverpool: | |
| Poel & Arnold | 44,500 |
| OCT. 31.—By the <i>Minnehaha</i> =London: | |
| George A. Alden & Co. | 9,000 |
| NOV. 1.—By the <i>Moths</i> =Hamburg: | |
| Poel & Arnold | 10,000 |
| NOV. 3.—By the <i>Cedric</i> =Liverpool: | |
| Wallace L. Gough | 12,000 |
| Joseph Cantor | 5,000 |
| | 17,000 |
| NOV. 7.—By the <i>Etruria</i> =Liverpool: | |
| George A. Alden & Co. | 19,000 |
| Poel & Arnold | 8,000 |
| A. T. Morse & Co. | 1,000 |
| Robinson & Tallman | 4,500 |
| | 32,500 |
| NOV. 7.—By the <i>Finland</i> =Antwerp: | |
| A. T. Morse & Co. | 16,000 |
| Joseph Cantor | 2,000 |
| | 18,000 |
| NOV. 7.—By the <i>Bovic</i> =Liverpool: | |
| George A. Alden & Co. | 54,000 |
| NOV. 9.—By the <i>Rotterdam</i> =Rotterdam: | |
| Poel & Arnold | 51,000 |
| NOV. 9.—By the <i>Oceanic</i> =Liverpool: | |
| Poel & Arnold | 10,000 |
| NOV. 10.—By the <i>Phoenixia</i> =Hamburg: | |
| Poel & Arnold | 27,000 |
| George A. Alden & Co. | 9,000 |
| | 36,000 |

AFRICANS.—Continued.

| | |
|---|---------|
| NOV. 11.—By the <i>Peninsular</i> =Lisbon: | |
| General Rubber Co. | 25,000 |
| Poel & Arnold | 45,000 |
| Rubber Trading Co. | 40,000 |
| | 110,000 |
| NOV. 12.—By the <i>Lucania</i> =Liverpool: | |
| General Rubber Co. | 25,000 |
| George A. Alden & Co. | 22,500 |
| A. T. Morse & Co. | 11,000 |
| | 58,500 |
| NOV. 14.—By the <i>Hamburg</i> =Hamburg: | |
| A. T. Morse & Co. | 11,500 |
| Earle Brothers | 4,500 |
| | 16,000 |
| NOV. 14.—By the <i>Menominee</i> =London: | |
| George A. Alden & Co. | 9,000 |
| NOV. 15.—By the <i>Vaderland</i> =Antwerp: | |
| Winter & Smillie | 15,000 |
| Joseph Cantor | 11,000 |
| | 26,000 |
| NOV. 17.—By the <i>Majestic</i> =Liverpool: | |
| Poel & Arnold | 25,000 |
| George A. Alden & Co. | 22,600 |
| Henry A. Gould Co. | 7,000 |
| Wallace L. Gough | 10,000 |
| A. T. Morse & Co. | 7,000 |
| | 71,600 |
| NOV. 19.—By the <i>Pretoria</i> =Hamburg: | |
| George A. Alden & Co. | 20,000 |
| A. T. Morse & Co. | 20,000 |
| | 40,000 |
| NOV. 21.—By the <i>Umbria</i> =Liverpool: | |
| George A. Alden & Co. | 27,000 |
| General Rubber Co. | 11,000 |
| Poel & Arnold | 15,000 |
| | 53,000 |
| NOV. 22.—By the <i>Cevic</i> =Liverpool: | |
| Poel & Arnold | 156,000 |
| NOV. 22.—By the <i>Kroonland</i> =Antwerp: | |
| Poel & Arnold | 45,000 |
| A. T. Morse & Co. | 14,000 |
| | 59,000 |
| NOV. 23.—By the <i>Pricka</i> =Bordeaux: | |
| A. T. Morse & Co. | 15,000 |

EAST INDIAN.

| | POUNDS. |
|--|---------|
| OCT. 27.—By the <i>Patricia</i> =Hamburg: | |
| Pierre T. Betts | 14,000 |
| Poel & Arnold | 4,000 |
| | 18,000 |
| NOV. 3.—By the <i>Lowther Castle</i> =Singapore: | |
| A. T. Morse & Co. | 36,000 |
| George A. Alden & Co. | 22,000 |
| Robert Brann & Co. | 10,000 |
| D. A. Shaw & Co. | 5,000 |
| | 73,000 |
| NOV. 7.—By the <i>Minneapolis</i> =London: | |
| Poel & Arnold | 7,000 |
| Wallace L. Gough | 2,000 |
| Rubber Trading Co. | 2,500 |
| | 11,500 |
| NOV. 17.—By the <i>Atholl</i> =Singapore: | |
| George A. Alden & Co. | 11,000 |
| Croft & Co. | 6,000 |
| Robert Brann & Co. | 7,500 |
| | 24,500 |

GUTTA-JELUTONG.

| | |
|--|---------|
| NOV. 3.—By the <i>Lowther Castle</i> =Singapore: | |
| George A. Alden & Co. | 535,000 |
| Hagemeyer & Brunn | 100,000 |
| | 635,000 |
| NOV. 17.—By the <i>Atholl</i> =Singapore: | |
| George A. Alden & Co. | 235,000 |
| W. L. Wadleigh | 30,000 |
| F. Bredt & Co. | 20,000 |
| | 285,000 |

GUTTA-PERCHA AND BALATA.

| | POUNDS. |
|--|---------|
| OCT. 27.—By the <i>Patricia</i> =Hamburg: | |
| To Order | 6,000 |
| NOV. 10.—By the <i>Phoenixia</i> =Hamburg: | |
| To Order | 12,000 |
| NOV. 19.—By the <i>Pretoria</i> =Hamburg: | |
| To Order | 6,000 |
| BALATA. | |
| OCT. 29.—By the <i>Philadelphia</i> =London: | |
| Earle Brothers | 8,500 |
| NOV. 7.—By the <i>Minneapolis</i> =London: | |
| Earle Brothers | 4,500 |
| NOV. 9.—By the <i>Menanar</i> =Ciudad Bolivar: | |
| Havre and Hamburg, etc. | 70,000 |
| NOV. 15.—By the <i>Caribbean</i> =Demerara: | |
| Charles F. Shilstone | 8,000 |
| Otto Helnze & Co. | 1,500 |
| | 9,500 |

| | |
|---|-----------|
| Nov. 18.—By the <i>Grenada</i> =Trinidad: | |
| Frame & Co..... | 3,000 |
| Hagers & Heinlein..... | 200 |
| G. Amsinck & Co..... | 500 4,000 |

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—OCTOBER.

| Imports: | POUNDS. | VALUE. |
|--------------------------------|-----------|-------------|
| India-rubber..... | 5,038,335 | \$3,183,342 |
| Gutta-percha..... | 86,042 | 22,898 |
| Gutta-jelutong (Pontianak) ... | 839,945 | 30,043 |
| Total..... | 5,934,322 | \$3,236,278 |
| Exports: | | |
| India-rubber..... | 30,552 | \$29,386 |

| | | |
|----------------------------|---------|----------|
| Reclaimed rubber..... | 241,497 | 20,108 |
| Rubber Scrap Imported..... | 568,440 | \$36,843 |

BOSTON ARRIVALS.

| OCT. 5.—By the <i>Republic</i> =Liverpool: | POUNDS. |
|---|---------|
| George A. Alden & Co.—African..... | 5,611 |
| OCT. 8.—By the <i>Lancastrian</i> =London: | |
| George A. Alden & Co.—East Indian..... | 3,978 |
| OCT. 10.—By the <i>Saxonia</i> =Liverpool: | |
| George A. Alden & Co.—African..... | 6,715 |
| OCT. 11.—By the <i>Minneapolis</i> =London: | |
| George A. Alden & Co.—African..... | 97,333 |

| | |
|---|---------------|
| OCT. 12.—By the <i>Teutonic</i> =Rotterdam: | |
| George A. Alden & Co.—Samples..... | 454 |
| OCT. 12.—By the <i>Devonian</i> =Liverpool: | |
| George A. Alden & Co.—African..... | 2,956 |
| OCT. 20.—By the <i>Finland</i> =Antwerp: | |
| George A. Alden & Co.—African..... | 125,002 |
| OCT. 22.—By the <i>Teernia</i> =Liverpool: | |
| George A. Alden & Co.—Caucho..... | 44,500 |
| George A. Alden & Co.—Centrals..... | 15,142 59,642 |
| OCT. 25.—By the <i>Michigan</i> =Liverpool: | |
| Poel & Arnold.—African..... | 6,684 |
| Total..... | 308,876 |
| [Value, \$435,618.] | |

OCTOBER EXPORTS OF INDIA-RUBBER FROM PARA (KILOGRAMS).

| EXPORTERS. | UNITED STATES. | | | | | EUROPE. | | | | | TOTAL |
|--------------------------------|----------------|---------|---------|---------|-----------|---------|---------|---------|---------|-----------|-----------|
| | FINE. | MEDIUM. | COARSE. | CAUCHO. | TOTAL. | FINE. | MEDIUM. | COARSE. | CAUCHO. | TOTAL. | |
| Emok, Schrader & Co..... | 114,991 | 13,213 | 171,487 | — | 299,691 | 194,190 | 16,228 | 64,720 | — | 275,138 | 574,829 |
| Da Costa & Co..... | 72,479 | 6,843 | 157,358 | 4,573 | 241,253 | 68,886 | 3,204 | 45,970 | 6,150 | 124,210 | 365,463 |
| Adelbert H. Alden..... | 104,320 | 33,130 | 86,360 | 2,550 | 226,370 | 83,350 | 8,170 | 17,570 | 762 | 109,852 | 336,222 |
| R. Suarez & Co..... | 2,770 | 706 | 150 | — | 3,626 | 96,474 | — | 6,632 | 3,295 | 106,401 | 110,027 |
| Neale & Staats..... | — | — | 29,484 | — | 29,484 | 33,486 | 3,024 | 8,277 | — | 44,787 | 74,271 |
| J. Marques & Co..... | 21,633 | — | 5,665 | — | 27,298 | 34,618 | 746 | 6,278 | — | 41,642 | 68,940 |
| Pires, Teixeira & Co..... | 22,759 | — | 2,253 | — | 25,012 | — | — | — | — | — | 25,012 |
| Kanthack & Co..... | 14,131 | 2,898 | 4,558 | — | 21,587 | — | — | — | — | — | 21,587 |
| Denis Cronan & Co..... | 320 | — | 2,350 | — | 2,670 | 12,350 | 843 | — | — | 13,193 | 15,863 |
| Singlehurst Brocklehurst & Co. | — | — | 1,678 | — | 1,678 | 7,480 | 1,020 | 5,550 | — | 14,050 | 15,728 |
| H. A. Astlett..... | — | — | 1,587 | — | 1,587 | — | — | — | — | — | 1,587 |
| Direct from Manaos..... | 463,645 | 91,951 | 108,958 | 10,061 | 674,615 | 305,858 | 66,345 | 39,934 | 35,356 | 447,493 | 1,122,108 |
| Direct from Iquitos..... | 3,166 | — | 5,448 | — | 8,614 | 106,284 | 66,700 | 38,956 | 69,126 | 281,066 | 289,680 |
| Total..... | 820,214 | 148,741 | 577,336 | 17,194 | 1,563,485 | 942,976 | 166,280 | 233,887 | 114,680 | 1,457,832 | 3,021,317 |

OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (POUNDS).

| UNITED STATES. | | | | GREAT BRITAIN. | | | |
|------------------------|------------|------------|--------------|------------------------|------------|------------|--------------|
| MONTHS. | IMPORTS. | EXPORTS. | NET IMPORTS. | MONTHS. | IMPORTS. | EXPORTS. | NET IMPORTS. |
| September, 1904..... | 2,923,997 | 365,507 | 2,558,490 | September, 1904..... | 3,423,168 | 2,098,096 | 1,325,072 |
| January-August..... | 41,629,348 | 2,220,818 | 39,409,355 | January-August..... | 38,298,848 | 22,141,062 | 16,157,786 |
| Nine months, 1904..... | 44,553,345 | 2,586,325 | 41,967,020 | Nine months, 1904..... | 41,722,016 | 24,239,158 | 17,482,858 |
| Nine months, 1903..... | 42,898,398 | 2,583,197 | 40,315,201 | Nine months, 1903..... | 39,249,168 | 28,900,592 | 10,348,576 |
| Nine months, 1902..... | 37,610,569 | 2,537,333 | 35,073,236 | Nine months, 1902..... | 34,902,495 | 23,040,192 | 11,952,304 |
| GERMANY. | | | | ITALY. | | | |
| MONTHS. | IMPORTS. | EXPORTS. | NET IMPORTS. | MONTHS. | IMPORTS. | EXPORTS. | NET IMPORTS. |
| September, 1904..... | 2,847,240 | 715,226 | 2,132,020 | September, 1904..... | 76,340 | 1,980 | 74,360 |
| January-August..... | 23,755,600 | 6,587,680 | 17,167,920 | January-August..... | 1,051,820 | 75,460 | 976,360 |
| Nine months, 1904..... | 26,602,840 | 7,302,900 | 19,299,940 | Nine months, 1904..... | 1,128,160 | 77,440 | 1,050,720 |
| Nine months, 1903..... | 25,848,020 | 8,873,040 | 16,974,980 | Nine months, 1903..... | 1,117,820 | 123,420 | 994,400 |
| Nine months, 1902..... | 24,828,100 | 10,200,960 | 14,627,140 | Nine months, 1902..... | 1,046,540 | 82,580 | 963,960 |
| FRANCE.* | | | | AUSTRIA-HUNGARY. | | | |
| MONTHS. | IMPORTS. | EXPORTS. | NET IMPORTS. | MONTHS. | IMPORTS. | EXPORTS. | NET IMPORTS. |
| September, 1904..... | 1,926,540 | 1,207,580 | 718,960 | September, 1904..... | 164,340 | 1,100 | 163,240 |
| January-August..... | 13,976,820 | 7,431,160 | 6,545,660 | January-August..... | 1,931,600 | 15,186 | 1,916,420 |
| Nine months, 1904..... | 15,903,360 | 8,638,740 | 7,264,620 | Nine months, 1904..... | 2,095,940 | 16,280 | 2,079,660 |
| Nine months, 1903..... | 11,754,160 | 6,826,600 | 4,927,560 | Nine months, 1903..... | 2,137,080 | 20,460 | 2,116,620 |
| Nine months, 1902..... | 12,400,940 | 7,109,960 | 5,290,980 | Nine months, 1902..... | 1,997,380 | 11,220 | 1,986,160 |
| BELGIUM.† | | | | | | | |
| MONTHS. | IMPORTS. | EXPORTS. | NET IMPORTS. | | | | |
| June, 1904..... | 1,034,701 | 922,387 | 112,314 | | | | |
| January-May..... | 7,963,094 | 6,306,161 | 1,656,933 | | | | |
| Six months, 1904..... | 8,997,795 | 7,228,548 | 1,769,247 | | | | |
| Six months, 1903..... | 8,212,342 | 5,815,741 | 2,396,601 | | | | |
| Six months, 1902..... | 7,683,867 | 5,551,059 | 2,132,808 | | | | |

NOTE.—German statistics include Gutta-percha, Balata, old rubber, and substitutes. French, Austrian, and Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

* General Commerce.

† Special Commerce.

994.

454

2,956

25,002

50,645

6,684

38,376

AL

,820

,463

,222

,027

,271

,940

,012

,587

,863

,728

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